ENVIRONMENTAL ASSESSMENT SUPPLEMENT

PROPOSED MILITARY CONSTRUCTION PROJECT
DEPLOYABLE MEDICAL SYSTEM TRAINING AREA AND MILITARY EQUIPMENT PARKING
FAIRCHILD AIR FORCE BASE, WASHINGTON

DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
FAIRCHILD AIR FORCE BASE, WASHINGTON

NOVEMBER 2011

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
NOV 2011		**00-00-2011 to 00-00-2011**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Environmental Assessment Supplement: Proposed Military Construction Project Deployable Medical System Training Area and Military Equipment Parking Fairchild Air Force Base, Washington	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **CH2M HILL,7927 Nemco Way, Suite 120,Brighton,MI,48116**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

This Environmental Assessment (EA) Supplement provides additional information and is a modification to the Final Environmental Assessment: Armed Forces Reserve Center ? Fairchild Air Force Base, Washington, January 2007. This EA Supplement has been prepared because the original Base Realignment and Closure project did not include the DEPMEDS training area or additional military equipment parking (MEP) (per the 1391 dated Oct 2010) and the potential impacts of construction of the parking area were not previously evaluated. If the DEPMEDS training area and MEP area is not constructed, the assigned units at the Fairchild Armed Forces Reserve Center will not be able to fulfill their mission requirements. Alternative locations on base were explored but were eliminated because of environmental constraints or insufficient acreage. The No Action Alternative, which is a non-viable alternative, provides contrast and comparison to the viable alternative and its relative environmental affects. No significant impacts would result from implementation of the Proposed Action or the No Action Alternative.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**105**	

FINDING OF NO SIGNIFICANT IMPACT

DEPLOYABLE MEDICAL SYSTEM TRAINING AREA AND MILITARY EQUIPMENT PARKING FAIRCHILD AIR FORCE BASE, WASHINGTON

Background: Federal actions that potentially involve significant impacts to the environment must be reviewed in accordance with the National Environmental Policy Act (NEPA) and all other applicable environmental laws. The US Air Force, US Army Corps of Engineers, and the US Army Reserve (USAR) have completed an Environmental Assessment (EA) Supplement of the potential environmental consequences associated with the construction of a Deployable Medical System (DEPMEDS) training area and military equipment parking (MEP) adjacent to the newly constructed Fairchild Armed Forces Reserve Center (AFRC) at Fairchild Air Force Base (AFB) in Spokane County, Washington. This Finding of No Significant Impact (FONSI) incorporates the EA Supplement by reference and summarizes the results of the evaluation. This EA Supplement has been prepared because the original Base Realignment and Closure project did not include the DEPMEDS training area or additional MEP (per the 1391 dated Oct 2010), and the potential impacts of construction of the parking area were not previously evaluated.

Proposed Action: The Proposed Action is to provide a DEPMEDS training area and additional MEP to support the newly constructed Fairchild AFRC. The Proposed Action covers approximately 17 acres and will include the following: approximately 5 acres for a DEPMEDS training area; an 80-foot by 80-foot multipurpose, multiuser training building; approximately 5 acres for USAR MEP; approximately 5 acres for the Washington Army National Guard (WAARNG) MEP; and approximately 2 acres to include an on-site storm water management system; an extension of utilities; 8-foot high earthen screening berm along the west /northwest parcel boundary; and additional facilities including fencing, landscaping and other site improvements.

Alternatives: In addition to the Preferred Alternative, three alternatives were considered and eliminated based upon anticipated conflicts with requirements stated in Section 2.2 of the EA. These alternative locations were: a.) land north of the existing AFRC, b.) other large, contiguous parcels of land in the industrial area of Fairchild AFB and c.) The No Action Alternative. The land north of the existing AFRC is the location of an inactive recreational trap and skeet range which contains lead contamination. Land to the east is not part of Fairchild AFB. Land to the south is part of the flight line for Fairchild AFB. No other parcels of land in the industrial area were large enough to support the Proposed Action. Under the No Action Alternative, construction of the new DEPMEDS training area and MEP area would not occur. If the DEPMEDS training area and MEP area is not constructed, the assigned units at the Fairchild AFRC will not be able to fulfill their mission requirements. The lack of adequate facilities would negatively affect training and operations, resulting in a reduced ability to achieve the USAR and WAARNG mission, which could potentially compromise readiness and security. As such, the No Action Alternative does not fulfill the project's purpose and need. It is included in this analysis to provide a baseline against which the beneficial and adverse impacts of the other alternative can be compared

The Preferred Alternative consists of construction of the DEPMEDS training area and MEP area

west of Sports Range Road and the newly constructed Fairchild AFRC and south of Eaker Road, hereafter referred to as the "Preferred Site." The Preferred Site is approximately 17 acres, is undeveloped, and is convenient to the Fairchild AFRC. The Preferred Site would include space for DEPMEDS training and MEP for the USAR and the WAARNG. The DEPMEDS area would include an 80-foot by 80-foot, pre-engineered, insulated metal building to be used as a multipurpose, multiuser training building for WAARNG and USAR personnel. Spill control and secondary containment would be constructed for two WAARNG 2,500-gallon fuel trucks. The parking area would incorporate an onsite stormwater management system to address stormwater treatment and controlled run-off. An earthen berm would be constructed along the northern and western/northwestern boundaries to visually screen this area from vehicular traffic on Eaker Road.

Public Review: A copy of the EA Supplement and a copy of this draft FONSI were made available for public review for 15 days at the Airway Heights Public Library located at 1213 South Lundstrom Street, Airway Heights, Washington 99901, and the Spokane Public Library located at 906 West Main Avenue, Spokane, Washington 99201, or on the Internet at www.fairchild.af.mil and www.ch2mhill.com/EA1. Written comments, received up to 15 days from the publication of the public notice on October 21, 2011 in the *Fairchild Flyer* and the *Spokesman-Review Newspaper*, were considered. No comments were received during the comment period.

Conclusion: Based on the attached EA Supplement conducted in accordance with the requirements of NEPA, CEQ Regulations, and AFI 32-7061, I conclude that the Proposed Action will have no significant individual or cumulative impact upon the environment. An Environmental Impact Statement is not warranted, and one will not be prepared. The signing of this FONSI completes the Environmental Impact Analysis Process under Air Force regulations.

J. H. Bonapart

14 DEC 2011

JOHN H. BONAPART, JR.
SES, DAFC
Deputy Director of Installations
and Mission Support

Date

Attachment:
EA

COVER SHEET

ENVIRONMENTAL ASSESSMENT SUPPLEMENT

CONSTRUCT DEPLOYABLE MEDICAL SYSTEM TRAINING AREA AND MILITARY EQUIPMENT PARKING FAIRCHILD AFB, WASHINGTON

Responsible Agencies: Department of the Air Force, Air Mobility Command, Fairchild Air Force Base (AFB), Washington; Department of the Army, 88th Regional Support Command, Fort McCoy, Wisconsin; and Army Reserve Installation Management Directorate, Arlington, Virginia.

Proposed Action: Construct Deployable Medical System (DEPMEDS) training area and Military Equipment Parking. Project is located at Fairchild AFB, Spokane County, Washington.

Contact Information: Comments and inquiries regarding this document should be directed to: Public Affairs, 1 East Bong St., Fairchild AFB, WA 99011. Phone: (509) 247-5704.

Report Designation: Environmental Assessment Supplement

Public Review Period: Public review was conducted for 15 days from October 21, 2011 through November 5, 2011.

Abstract: This Environmental Assessment (EA) Supplement provides additional information and is a modification to the *Final Environmental Assessment: Armed Forces Reserve Center – Fairchild Air Force Base, Washington, January 2007*. This EA Supplement has been prepared because the original Base Realignment and Closure project did not include the DEPMEDS training area or additional military equipment parking (MEP) (per the 1391 dated Oct 2010) and the potential impacts of construction of the parking area were not previously evaluated. If the DEPMEDS training area and MEP area is not constructed, the assigned units at the Fairchild Armed Forces Reserve Center will not be able to fulfill their mission requirements. Alternative locations on base were explored but were eliminated because of environmental constraints or insufficient acreage. The No Action Alternative, which is a non-viable alternative, provides contrast and comparison to the viable alternative and its relative environmental affects. No significant impacts would result from implementation of the Proposed Action or the No Action Alternative.

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Appendix B Biological Evaluation
Appendix C Air Emission Calculations

LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFRC	Armed Forces Reserve Center
ARIM-D	Army Reserve Installation Management Directorate
ARW	Air Refueling Wing
AST	Aboveground storage tank
BE	Biological Evaluation
BMP	best management practice
CAIS	Chemical Agent Identification Sets
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DEPMEDS	Deployable Medical System
EA	Environmental Assessment

EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
ERP	Environmental Restoration Program
ICRMP	Installation Cultural Resource Management Plan
MBTA	Migratory Bird Treaty Act
MEP	Military equipment parking
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Act
PM	Particulate Matter
RSC	Regional Support Command
SWPPP	Storm Water Pollution Prevention Plan
TCE	Trichloroethylene
UDNR	Utah Department of Natural Resources
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USAR	United States Army Reserve
USFWS	United States Fish and Wildlife Service
UST	Underground storage tank
UXO	Unexploded ordnance
WAARNG	Washington Army National Guard
WDNR	Washington Department of Natural Resources

Chapter 1: Purpose and Need for Action and Scope of Analysis

1.1 Introduction and Background

This Environmental Assessment (EA) Supplement provides additional information and is a modification to the *Final Environmental Assessment: Armed Forces Reserve Center – Fairchild Air Force Base, Washington, January 2007*. This EA Supplement evaluates the effects of constructing a Deployable Medical System (DEPMEDS) training area and military equipment parking (MEP) adjacent to the newly constructed Fairchild Armed Forces Reserve Center (AFRC) at Fairchild Air Force Base (AFB) in Spokane County, Washington (Figure 1).

This EA Supplement has been prepared because the original Base Realignment and Closure project did not include the DEPMEDS training area or additional MEP (per the 1391 dated Oct 2010) and the potential impacts of construction of the parking area were not previously evaluated. Only resources not evaluated fully with respect to a parking area in the original EA are evaluated in detail in this EA Supplement. The original EA is included as Appendix A of this supplement.

This EA Supplement will determine whether the proposed action of constructing a DEPMEDS training area and MEP area would result in significant direct, indirect, or cumulative impacts. If impacts are predicted, mitigation would be prescribed to reduce impacts below the level of significance or the finding would recommend the preparation of an Environmental Impact Statement (EIS) to address unmitigated impacts, or the proposed action would not be implemented. This EA Supplement would also be used to guide the implementation of the proposed action consistent with laws, regulations, and United States Air Force (USAF) standards for environmental stewardship.

Chapter 1 includes background information relevant to the proposed action, the purpose and need for the proposed action, an overview of the scope of the analysis, and a summary of key environmental compliance requirements.

1.2 Purpose and Need for the Proposed Action

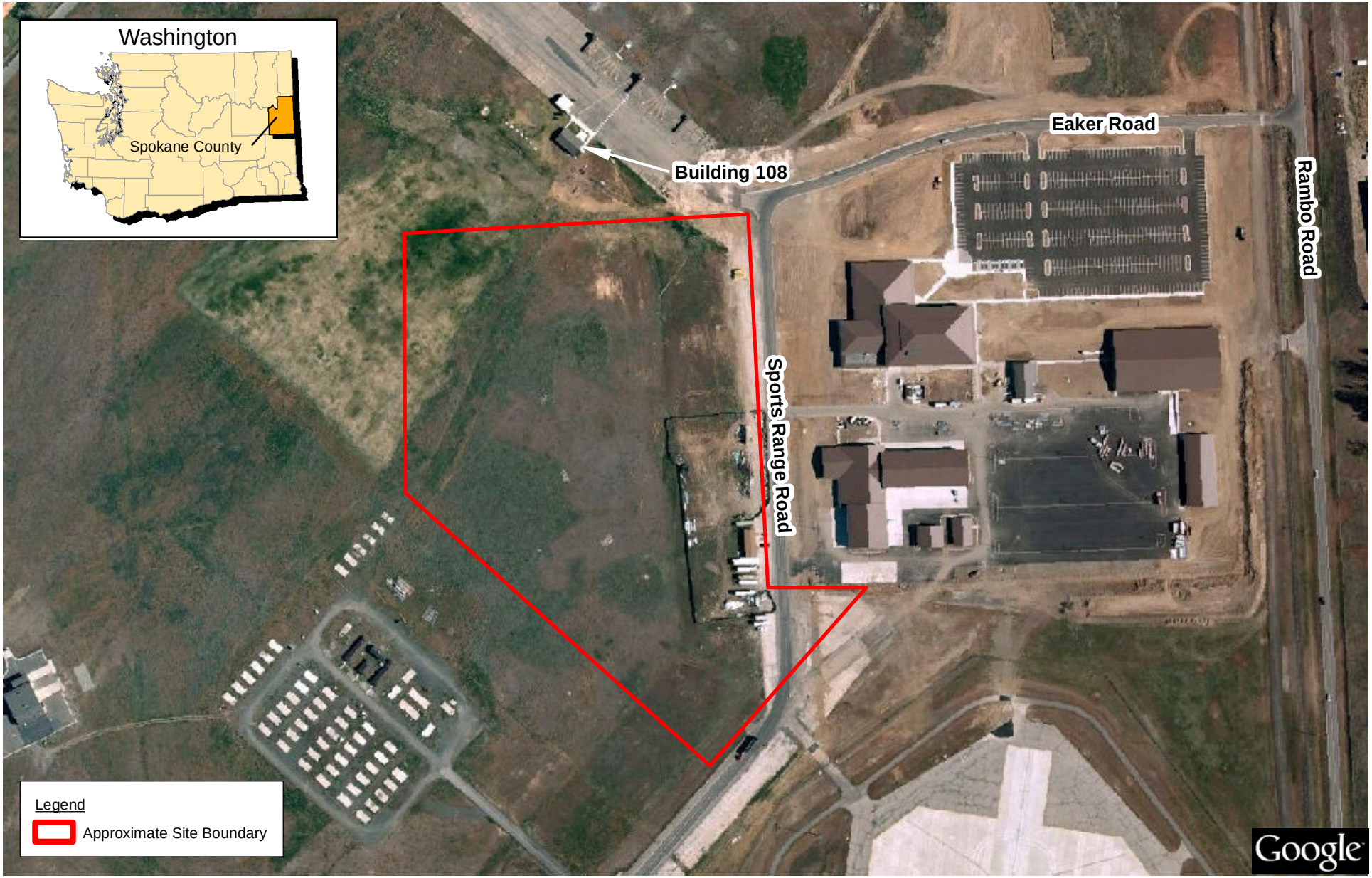
The United States Army Reserve (USAR) proposes to acquire land (via permit) and construct a DEPMEDS training area and MEP area adjacent to the newly constructed Fairchild Armed Forces Reserve Center (AFRC). The DEPMEDS training area would support the USAR and the MEP area would support both the USAR and the Washington Army National Guard (WAARNG) equipment.

If the DEPMEDS training area and MEP area is not constructed, the assigned units at the Fairchild AFRC will not be able to fulfill their mission requirements. The units were previously using the Mann US Army Reserve Center, located in Spokane, Washington, which has been closed under Base Realignment and Closure. The DEPMEDs units are temporarily using Hangar Building 1007 where the units can conduct some limited training; however, they cannot setup temper tents or small hospital configurations which impacts their ability to train properly. Unit military equipment is being temporarily stored on a nearby Local Training Area until a

temporary MEP can be constructed on a taxiway at Fairchild AFB (McKean, personal communication, 2011).

1.3 Objectives of the Action

The objective of this action is to provide a DEPMEDS training area and MEP area in support of the newly constructed Fairchild AFRC while maintaining compatibility with other operations at Fairchild AFB and with minimum environmental impact.



N

0 150 300

Approximate Scale in Feet

Note: Temporary construction trailers and equipment shown are no longer present on the Preferred Site.

FIGURE 1
Preferred Site Location
US Army Reserve
Proposed Military Construction Project
Fairchild AFB, WA

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1.4 Scope of the Environmental Assessment

This EA Supplement will evaluate, to the fullest extent possible, the environmental consequences of the proposed action and alternatives on the affected environment, as well as possible cumulative impacts from other reasonably foreseeable actions. The data obtained through completion of the EA Supplement will in turn be utilized to assist decision making authorities in making environmentally informed decisions. This EA Supplement is being completed in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969.

The evaluation will determine whether the proposed action would result in an environmental impact significant enough to warrant preparation of an EIS, or whether the action would qualify for a Finding of No Significant Impact.

Resources to be considered include: air quality, water resources, noise, geologic resources, biological resources, cultural resources, infrastructure and utilities, land use, wastes and hazardous materials, safety and occupational health, and socioeconomic resources.

1.5 Summary of Key Environmental Compliance Requirements

National Environmental Policy Act of 1969, as amended

NEPA requires all federal agencies to use a systematic, interdisciplinary approach in decision making which may have an impact on man's environment. Therefore, NEPA directs agencies to assess expected environmental impacts of all federal actions and proposals. In turn, this data must be considered in the decision making process. Compliance with NEPA is accomplished through the guidance outlined in 32 Code of Federal Regulations (CFR) 989, Environmental Impact Analysis Process (EIAP).

This EA has been prepared for the United States Army Corps of Engineers (USACE), the Army Reserve Installation Management Directorate (ARIM-D), the 88th Regional Support Command (RSC) of the USAR, and the USAF.

This EA has been prepared in accordance with NEPA, Section 102(2)(C); the Council on Environmental Quality (CEQ) "Regulations for Implementing the Procedural Provisions of NEPA," 40 CFR Parts 1500 through 1508; and 32 CFR Part 651, "Environmental Analysis of Army Actions."

Other Environmental Statutes and Regulations

To comply with NEPA, this analysis considers other relevant environmental statutes and regulations. According to the CEQ regulations, requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively."

Chapter 2: Description of Proposed Action and Alternatives

2.1 Introduction

The Proposed Action is to provide a DEPMEDS training area and additional MEP to support the newly constructed Fairchild AFRC. The Proposed Action will include the following:

1) Approximately 5 acres for a DEPMEDS training area.
2) An 80-foot x 80-foot multipurpose, multiuser, training building.
3) Approximately 5 acres for USAR MEP.
4) Approximately 5 acres for WAARNG MEP.
5) Onsite stormwater management system to address stormwater treatment and controlled run off.
6) An extension of electricity, water, sewer, and communication lines.
7) 8-foot high earthen screening berm along the west / northwest parcel boundary.
8) Additional facilities include fencing, landscaping and other site improvements.

2.2 Selection Standards for Alternatives

Viable alternatives must consider requirements including safety, cost effectiveness, efficiency, AFRC operations, and compatibility with other Fairchild AFB operations. Environmental criteria considered must include: air quality, water resources, geologic resources, biological resources, cultural resources, infrastructure and utilities, land use, noise, wastes and hazardous materials, pollution prevention, socioeconomic resources, safety and occupational health; and environmental management. In accordance with land use criteria for Fairchild AFB, only land located in the industrial sections of the installation was to be considered. In addition, for the purposes of this project, the land must be adjacent to or easily accessible to the existing AFRC facility for logistical and command and control purposes.

2.3 Alternatives Considered but Eliminated from Detailed Study

Two alternatives were considered and eliminated based upon anticipated conflicts with requirements stated in Section 2.2. These alternative locations were:

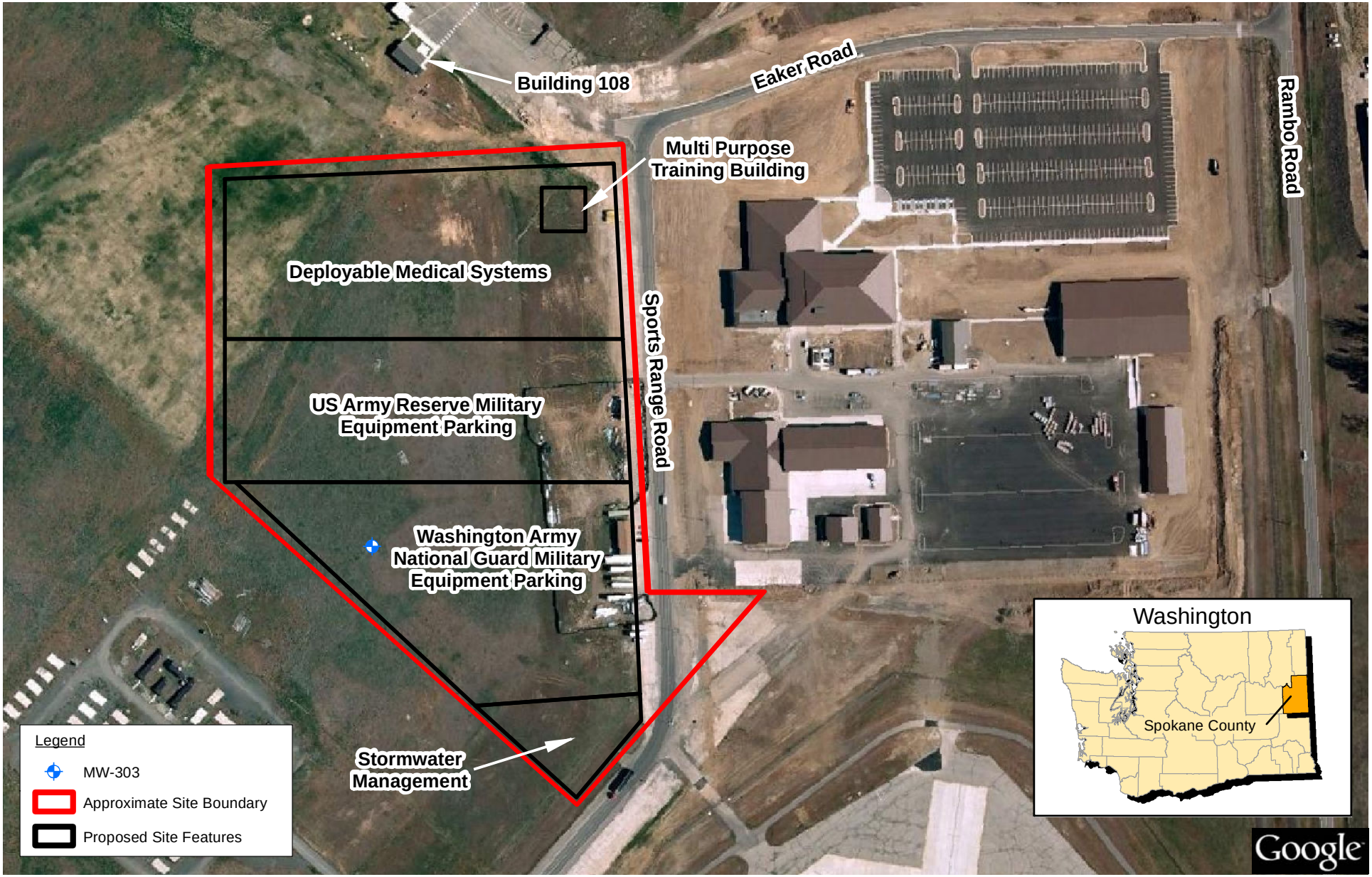
1) Land north of the existing AFRC
2) Other large, contiguous parcels of land in the industrial area of Fairchild AFB

The land north of the existing AFRC is the location of an inactive recreational trap and skeet range which contains lead contamination. Land to the east is not part of Fairchild AFB. Land to the south is part of the flightline for Fairchild AFB. No other parcels of land in the industrial area were large enough to support the Proposed Action.

2.4 Description of Alternatives

Alternative 1 is the Preferred Alternative. The Preferred Alternative consists of construction of the DEPMEDS training area and MEP area west of Sports Range Road and the newly constructed Fairchild AFRC and south of Eaker Road, hereafter referred to as the "Preferred Site" (see Figure 1). The Preferred Site is approximately 17 acres, is undeveloped, and is convenient to the Fairchild AFRC. The Preferred Site would include space for DEPMEDS training and MEP for the USAR and the WAARNG (Figure 2). The DEPMEDS area would include an 80-foot by 80-foot, pre-engineered, insulated metal building to be used as a multi-purpose, multi-user training building for WAARNG and USAR personnel. Spill control and secondary containment would be constructed for two WAARNG 2,500-gallon fuel trucks. The parking area would incorporate an onsite stormwater management system to address stormwater treatment and controlled run off. An earthen berm would be constructed along the northern and western/northwestern boundaries to visually screen this area from vehicular traffic on Eaker Road.

Under the No Action Alternative, construction of the new DEPMEDS training area and MEP area would not occur. If the DEPMEDS training area and MEP area is not constructed, the assigned units at the Fairchild AFRC will not be able to fulfill their mission requirements. The lack of adequate facilities would negatively affect training and operations, resulting in a reduced ability to achieve the USAR and WAARNG mission, which could potentially compromise readiness and security. As such, the No Action Alternative does not fulfill the project's purpose and need. It is included in this analysis to provide a baseline against which the beneficial and adverse impacts of the other alternative can be compared.



N

0 125 250

Approximate Scale in Feet

Note: Temporary construction trailers and equipment shown in Figure 2 are no longer present on the Preferred Site.

FIGURE 2
Proposed Layout (Approximate)
US Army Reserve
Proposed Military Construction Project
Fairchild AFB, WA

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Chapter 3: Affected Environment

3.1 Introduction

The following sections describe the affected environment at the Preferred Site. Detailed descriptions of these resources as they relate to Fairchild AFB and the surrounding region are presented in the *Final Environmental Assessment: Armed Forces Reserve Center – Fairchild Air Force Base, Washington, January 2007* (Appendix A).

3.2 Air Quality and Noise

Air Quality
Fairchild AFB is in an area that is in attainment for all criteria pollutants. There are no sources of pollutant air emissions at the Preferred Site because the site is undeveloped. Sources of air emissions near the Preferred Site primarily consist of fuel combustion emissions from aircraft, from vehicle traffic on surrounding roadways, and from stationary sources of nearby industrial operations at Fairchild AFB.

Noise
Sources of noise in the area surrounding the Preferred Site typically include aircraft noise from the airfield which is located approximately one mile southeast of the Preferred Site and vehicle noise on the surrounding streets. At present, there is construction-related noise associated with runway renovations at the airfield, but this noise source will be temporary.

3.3 Water Resources

There are no surface water resources or wetlands on the Preferred Site. The Preferred Site is not within a 100-year floodplain (FEMA, 2010). The Preferred Site is an open vegetated field. Stormwater on the Preferred Site infiltrates into the ground or, during large storms, flows into the three stormwater drains on the Preferred Site. After stormwater passes through Fairchild AFB's stormwater collection ponds, it flows through a stormwater channel know as "No Name Ditch" where it flows east off the installation. Typically, the stormwater infiltrates into the soil, but during periods of high flow runoff will travel toward an agricultural field and percolate into an area which is suspected to be a paleo channel. This is a remnant of an abandoned stream channel that was carved from older basalt rock and has since filled in with sediments of younger overlying rock (92 CES/CEAN, 2011; Shelton, 2011). The suspected paleo channel is located in the moderate aquifer susceptibility area of the underlying aquifer (Shelton, 2011).

The Fairchild AFB Storm Water Pollution Prevention Plan (SWPPP) describes existing and potential sources of stormwater pollution at the Base. The current systems are in compliance with all state and federal stormwater regulations.

The Preferred Site is located within the high susceptibility zone of the critical aquifer recharge area. The uppermost groundwater at Fairchild AFB is usually encountered between 3 and 12 feet below ground surface in the weathered uppermost portion of Basalt A. The groundwater generally flows from west to east across the base (92CES/CEAN). There is a groundwater monitoring well located on the Preferred Site. There are no groundwater withdrawal wells on the

Preferred Site.

3.4 Geologic Resources

Geology of the region is described in the *Final Environmental Assessment: Armed Forces Reserve Center – Fairchild Air Force Base, Washington, January 2007*(Appendix A). Alluvial sediments and two layers of basalt within the regional Columbia River Basalt Group underlie Fairchild AFB. Basalt A is the uppermost basalt layer characterized by a massive fine grained center with infrequent fractures and low permeability. Basalt B, the deeper basalt layers, is porous and vesicular at the top and become progressively denser at greater depths.

Soils in the Spokane, Washington area are generally shallow overlying basalt bedrock (92 CES/CEAN, 2006). The soils underlying the Preferred Site are Cheney and Uhlig silt loams, 0 to 8 percent slopes. The parent material of these soils is glaciofluvial deposits and alluvium mixed with loess and volcanic ash. The Cheney and Uhlig soils are classified as well drained. The typical soil profile types are silt loam at the surface to gravelly silt loam to extremely gravelly coarse sand at greater depths (Natural Resources Conservation Service, 2011). Topography at the Preferred Site is generally flat with a slight rise from the east to the west.

3.5 Biological Resources

The Preferred Site consists of a grassy field that is considered semi-improved and mowed four times a year. The site is treated twice a year with herbicides to control invasive pest plants: diffuse knapweed (*Centauria diffusa*), spotted knapweed (*Centauria stoebe*), and Canada thistle (*Cirsium arvense*). Vegetation on the Preferred Site consists of a mix of grasses and weeds including mountain brome (*Bromus marginatus*), saltgrass (*Distichlis spicata*), rush skeletonweed (*Chondrilla juncea*), diffuse knapweed, spotted knapweed, gumweeds (*Grindelia* spp.), and Canada thistle.

Wildlife species observed in the open field included butterflies (Order Lepidoptera) and grasshoppers (Order Orthoptera). Holes, which were likely the openings of badger burrows (Selser, personal communication, 2011) were observed. The grassy field on the Preferred Site provides suitable foraging and nesting habitat for birds regulated by the Migratory Bird Treaty Act (MBTA).

The Bald and Golden Eagle Protection Act of 1940 provides for the protection of the bald eagle and the golden eagle by prohibiting, except under specified conditions, the taking, possession, and commerce of such birds. The Preferred Site and the surrounding area do not offer suitable habitat for the bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*).

The Fairchild AFB Integrated Natural Resources Management Plan lists three federally-listed or candidate species as potentially occurring on the installation: one mammalian species that is a candidate for federal listing and two federally-threatened plant species (92 CES/CEAN, 2011).

The Washington ground squirrel (*Spermophilus washingtoni*) is associated with sagebrush-grasslands of the Columbia Plateau, in areas with silty loam soils, especially those classified as Warden soils (United States Fish and Wildlife Service [USFWS], 2011a). Washington ground

squirrels have been extirpated at most sites outside the United States Naval Weapons Systems Test Facility (Boardman Bombing Range), managed by the United States Navy, and the Boeing tract, state-owned lands originally leased to Boeing, Inc., and have not been observed at Fairchild AFB (92 CES/CEAN, 2011). Therefore, it is highly unlikely that the Washington ground squirrel would occur at the Preferred Site.

Howellia (*Howellia aquatilis*) is an aquatic plant that occurs in small vernal freshwater wetlands (USFWS, 1996). Howellia has not been observed at Fairchild AFB (92 CES/CEAN, 2011). There are no wetlands within the Preferred Site and no potentially suitable habitat for this species. It is highly unlikely that the Howellia would occur at the Preferred Site.

Spalding's catchfly (*Silene spaldingi*) occurs in native grasslands with a minor shrub component and scattered conifers (92 CES/CEAN, 2011). Spalding's catchfly occurs on Fairchild AFB, but known occurrences are south of the airfield and has not been observed elsewhere during installation vegetation surveys (92 CES/CEAN, 2011). The Preferred Site does not contain the preferred habitat for this species and Spalding's catchfly was not observed during the site visit. It is highly unlikely that Spalding's catchfly would occur on the Preferred Site.

A Biological Evaluation (BE) was prepared in accordance with the USAR's guidance document "Standard Operating Procedure: Implementing Section 7 ESA Requirements for Real Property Exchanges.**"** The BE concluded that no federally-listed species are expected to occur at Alternate Site 1 (Appendix B). No federally-listed species or their habitats were observed during a site walk of the Preferred Site on August 2, 2011.

There are 13 state-listed threatened and three state-listed endangered species that occur or have potential to occur at Fairchild AFB, including the federally-listed or candidate species discussed above (92 CES/CEAN, 2011). Nine of these species (American white pelican [*Pelecanus erythrorhynchos*], northern leopard frog [*Rana pipiens*], grand redstem [*Ammannia robusta*], yellow lady's-slipper [*Cypripedium parviflorum*], dwarf rush [*Juncus hemiendytus* var. *hemiendytus*], American pillwort [*Pilularia Americana*], lowland toothcup [*Rotala ramosior*], Rocky Mountain bulrush [*Scirpus sacimontanus*], and northwestern yellowflax [*Sclerolinon digynum*]) are restricted to aquatic and wetland habitats that do not occur on the proposed site and are not further discussed. Howellia and Spalding's catchfly are discussed above. The remaining five species are discussed below.

The ferruginous hawk (*Buteo regalis*) prefers flat and rolling terrain in grassland or shrub steppe during nesting season. Because of a strong preference for elevated nest sites they prefer cliffs, buttes, and creek banks. During winter, ferruginous hawks use open farmlands, grasslands, deserts, and other arid regions where prairie dogs and other prey are present (Utah Department of Natural Resources [UDNR], 2011a). The Preferred Site does contain grassland; however, it does not contain cliffs, buttes, or creeks. In addition, the hawk was not observed during the site visit and has not been observed at Fairchild AFB. Therefore, it is highly unlikely that ferruginous hawk would occur on the Preferred Site.

The sharp-tailed grouse (*Tympanuchus phasianellus*) occurs in bunch-grass areas interspersed with deciduous shrubs. Nests are typically shallow hollows lined with grass and leaves, usually

placed near a bush or clump of grass (UDNR, 2011b). The Preferred Site does not contain deciduous shrubs and the sharp-tailed grouse or its nests were not observed during the site visit; the sharp-tailed grouse has never been observed at Fairchild AFB. Therefore, it is highly unlikely that the sharp-tailed grouse would occur on the Preferred Site.

The upland sandpiper (*Bartramia longicauda)* occurs in large areas of short grass for feeding and courtship with interspersed or adjacent taller grasses for nesting and brood cover. Nesting areas typically consist of open tracts of short grassland habitat (native prairies, dry meadows, pastures, domestic hayfields, short-grass savanna, plowed fields, along highway rights-of-way, airfields, peatlands, and scattered woodlands near timberline). Nesting is also known to occur in dry patches of wet meadows and in blueberry barrens (NatureServe, 2011a). The Preferred Site contains both short and tall grasses so it is possible that the upland sandpiper could occur at the Preferred Site; however the upland sandpiper has never been observed at Fairchild AFB; therefore, it is unlikely that is occurs on the Preferred Site.

Palouse goldenweed *(Haplopappus liatriformis)* can be found within sites dominated by bunchgrass with scattered patches of deciduous shrubs. Typical associated species include oneflower helianthella (*Helianthella uniflora*), Canada goldenrod (*Solidago canadensis*), prairiesmoke (*Geum triflorum*), Nootka rose (*Rosa nutkana*), yarrow (*Achillea millefolium*), and northwest cinquefoil (*Potentilla gracilis*). Sites are typically open and on lower to upper portions of moderate slopes (WDNR, 1997). The Preferred Site does not contain deciduous shrubs and typical species associated with palouse goldenweed were not observed on the Preferred Site. In addition, palouse goldenweed has never been observed at Fairchild AFB. Therefore, it is highly unlikely that palouse goldenweed would occur on the Preferred Site.

Austin's knotweed *(Polygonum austiniae)* occurs in dry to moist flats or banks, from the sagebrush plains into the lower mountains, often in ponderosa pine (*Pinus ponderosa*) forest. In Washington, the species occurs with thyme buckwheat (*Eriogonum thymoides*) and very sparse grass (WDNR, 1999). The Preferred Site does not contain sagebrush plains or ponderosa pine forest; therefore, it is highly unlikely that palouse goldenweed would occur on the Preferred Site.

A review of the online USFWS critical habitat mapping in Washington indicated that no critical habitat is located in Spokane County (USFWS, 2011b). Therefore, no critical habitat would be affected by construction of the parking area.

3.6 Cultural Resources

There are no structures on the Preferred Site. According to the 2005 Installation Cultural Resource Management Plan (ICRMP), three buildings on Fairchild AFB were identified as potentially eligible for inclusion on the National Register of Historic Places (NRHP): 92 Air Refueling Wing (ARW) Headquarters (the White House), Building 2050, and Building 2245 (92 CES/CEAN, 2005). Buildings 1467, 2080, and 2150 were identified as potentially historic in the Cold War context (92 CES/CEAN, 2005).

The 92 ARW Headquarters Building is within the viewshed of the Preferred Site but has been determined not to be eligible for listing on the NRHP (Selser, personal communication, 2011,). Building 1467 is not within the viewshed of the Preferred Site. Building 2050 is within the

viewshed of the Preferred Site and is potentially eligible for inclusion on the NRHP. Building 2080 is not 50 years old and does not meet Criterion G for listing buildings that are less than 50 years old (Selser, personal communication, 2011). The Historic American Buildings Survey and the Historic American Engineering Record documentation for Building 2150 have been completed and the building has been demolished (92 CES/CEAN, 2005). Building 2245 is not within the viewshed of the Preferred Site.

There are no known cultural resources of importance to local Native American tribes on Fairchild AFB and there are no known prehistoric or historic resources on the Preferred Site (92 CES/CEAN, 2005). In addition, there is a low probability of finding undisturbed, significant archaeological resources, including human graves, on Fairchild AFB during future construction.

3.7 Infrastructure and Utilities

Transportation Network. The Preferred Site is bounded on the north by Eaker Road and the east by Sports Range Road.

Sanitary Sewer. Sewage from Fairchild AFB is sent to the city of Spokane Advanced Wastewater Treatment Plant where treated wastewater is discharged to the Spokane River (92 CES/CEAN 2011).

Water. According to Mr. William Shelton, the Water Quality/Tank Program Manager at Fairchild AFB, the base obtains its water from three wells located 14 miles off base adjacent to the Spokane River (Shelton, 2011). Drinking water on base is safe to drink and meets all federal and state requirements (Fairchild AFB, 2010).

Solid Waste. Solid waste is disposed of offsite at the Spokane Regional Waste-to-Energy facility.

Other Utilities. Electricity and natural gas at Fairchild AFB is provided by Avista Utilities. Electrical and natural gas lines are located in the vicinity of the Preferred Site.

3.8 Land Use

Fairchild AFB land use classifications are: airfield/industrial, community, administrative, open space, outdoor recreation, training, Survival School Area, and Washington Air National Guard. The Preferred Site is adjacent to the airfield and is classified as industrial land use. The Preferred Site is undeveloped and consists of approximately 17 acres of open grassland that is used for light training activities and is routinely mowed and treated with herbicides to control noxious weeds. The northwestern portion of the Preferred Site was used as a golf course driving range.

A skeet range and Eaker Road are north of the Preferred Site, the AFRC is east of the Preferred Site, the airfield is southeast of the Preferred Site, Fairchild AFB Camp Aires, a training area, is southwest of the Preferred Site, and a former golf course driving range is northwest of the Preferred Site (Figure 2).

3.9 Wastes, Pollution Prevention, Hazardous Materials, and the ERP Program

Hazardous material is defined as any substance with physical properties of ignitability, corrosively, reactivity, or toxicity that could cause an increase in mortality, serious irreversible illness, and incapacitating reversible illness or that might pose a substantial threat to human health or the environment. Hazardous materials and waste at Fairchild AFB include flammable solvents, fuels and lubricants, paint/coating, stripping chemicals, waste oils and solvents, contaminated fuels and lubricants, waste paint-related materials, disposal of legacy building materials such as asbestos and lead based paint. There are 187 satellite accumulation points on the installation and one 90 day accumulation site. Waste containers are picked up and transported to an off-installation licensed Treatment, Storage, and Disposal Facility (92 CES/CEAN, 2007).

The Environmental Restoration Program (ERP) at Fairchild AFB encompasses three programs including the Installation Restoration Program, the Compliance Restoration Program, and the Military Munitions Response Program. The ERP has a total of 57 sites at Fairchild Air Force Base (CES/CEAN, 2011). Two ERP sites are located within a half-mile of the Property: Site SS-39 and the East Defuel Site.

Site SS-39 is located approximately 0.2 miles west of the Preferred Site. SS-39 is primarily defined as a 12,000-foot long by 1,500-foot wide trichloroethylene (TCE) and carbon tetrachloride plume that extends from the western end of the base northwest to the main gate. Groundwater flows north to northwest, away from the Preferred Site. The groundwater monitoring well (MW-303) located on the Preferred Site is associated with the SS-39 monitoring program (Figure 2). The well was last sampled in 2002, with no detections of TCE or carbon tetrachloride. Toluene was the only constituent detected and was detected at a concentration well below the Washington State clean-up level (CH2M HILL, 2011).

The East Defuel Site is located approximately 0.35 miles south of the Property north of Hangar 1005. In 1995, a 25,000-gallon underground storage tank (UST) was decommissioned and removed from the site. Petroleum contamination was observed in the open pit created by the removed UST and in the excavated soils from the site. Additional investigations identified VOC contamination in the soil and groundwater onsite. However, the soil concentrations were detected below clean-up levels. The groundwater plume has been mapped and the contamination appears to be naturally attenuating. Long-term monitoring and land use controls have been implemented onsite. The groundwater flow direction onsite is southeast toward the airfield away from the Property (Parsons Engineering Science, 2000).

No aboveground storage tanks (ASTs) or USTs were observed on the Preferred Site. However, several ASTs and USTs are located within 0.5 miles of the Preferred Site, including bulk storage and emergency generator support tanks. Given the distance from the Preferred Site, releases from these tanks would be minor and are not likely to affect the Preferred Site. No releases have been reported from any bulk storage facilities or other ASTs. All regulated USTs are managed and monitored in accordance with Washington Department of Ecology UST regulations. The groundwater in the area flows from west to east and then in a northerly direction but would not likely affect the Preferred Site (92 CES/CEAN, 2011).

According to the Military Munitions Response Program at Fairchild AFB, three historic ranges and three active ranges occur within less than a half-mile from the Preferred Site. The Old Skeet Range, located approximately 0.3 miles north-northwest of the Preferred Site, consisted of a single half moon shape firing line with the firing direction toward to the eastern boundary of the installation. The range was active from 1944 to 1952 and primarily used for recreational purposes. Shotgun ammunition (12-, 20-, and 28-gauge) was likely used onsite. In 1952, the skeet range was covered by base housing (USACE and Sky Research, 2009).

The Target Buttress Range, located approximately 0.3 miles southwest of the Preferred Site, was also active from 1944 through the early 1950s. The range consisted of a three-sided backstop with the line of fire toward the northeast. The 0.5-caliber M2 machine guns were likely the ammunition used onsite. Building 2096 and associated parking lot currently covers the historic range site (USACE and Sky Research, 2009).

The Skeet Range, located north of the Preferred Site, was constructed in 1952 to replace the Old Skeet Range but closed in 1959. The range consisted of a single half-moon structure oriented to the east. The range was also used for recreational purposes with the same 12-, 20-, and 28-gage shotgun ammunition (USACE and Sky Research, 2009). Soils with elevated lead and PAH concentrations are known to occur onsite. A soil removal action is planned for fall 2011 (EA Engineering, Science, and Technology, 2011).

The active Skeet/Trap Range, constructed in 1959, is located approximately 500 feet north of the Property. The range consists of a half-moon structure oriented north away from the Property. The skeet portion of the range covers 17 acres, while the trap portion is 5.8 acres. The range is used for small arms training and recreational purposes with shotgun ammunition (URS Group, 2007). According to the Fairchild AFB Environmental office, the range is considered inactive but is not officially closed and lead contamination is present in the soil onsite.

The active Small Arms Range, located approximately 0.3 miles southwest of the Property, opened in the 1990s. The site consists of a 2.1-acre square area with bullet trap and collection structure and is used primarily for small arms training with pistol ammunition (URS Group, 2007).

The firing lines at all three skeet ranges are north of the Preferred Site and the firing line of the operational machine gun range is oriented southwest away from the Preferred Site. Consequently, ammunition from these ranges is not likely to affect the Preferred Site. The historic Target Buttress range was oriented so the firing range was in the direction of the Preferred Site. However, ammunition is not likely to occur on the Preferred Site since a large backstop structure was in place. The firing line for the active small arms range is also oriented toward the Preferred Site, but with a bullet trap and collection structure in place, ammunition is not likely to affect the Preferred Site.

The Preferred Site is spot-treated biannually with herbicides to control knapweed and Canada thistle. According to the Fairchild AFB Pest Management Plan, contractors mix all pesticide and herbicide chemicals off-base (92 CES/CEAN, 2007).

3.10 Safety and Occupational Health

All applicable standards, such as those required by the Occupational Safety and Health Act (OSHA) are strictly followed at Fairchild AFB. Base personnel are regularly briefed on hazards and safety concerns existing in their particular workplace. All contractors performing construction activities are responsible for following ground safety and OSHA regulations. Industrial hygiene programs monitor human exposure to hazardous materials and safety equipment and procedures are continually inspected (CES/CEAN, 2007).

There are several areas at Fairchild AFB that are constrained by explosive clear zones. These zones are associated with the Alert Area, Explosive Combat Aircraft parking, and the Munitions Storage Area. Transportation routes for explosives also are present in the area using Gate 23 Road. Range sites on Fairchild AFB contain various munitions and potential unexploded ordnance (UXO). Chemical Agent Identification Sets (CAIS) has not previously been found at Fairchild AFB. Based on historical range activities and range investigations, it is unlikely that CAIS would be found at Fairchild AFB (Adams, personal communication, 2011).

Potential hazard exists associated with jet blast near runway and parking facilities of aircraft. Based upon idle thrust requirements of KC135 aircraft, safe distance for operations is 400 feet from the aircraft (based on UFC 3-260-01 and ETL 1110-3-394). Worst case estimates for larger aircraft requirements based upon take-off thrust are calculated at 900 feet (92 CES/CEAN, 2007).

3.11 Socioeconomics

Social and Economic Condition. Fairchild AFB is approximately 12 miles west of Spokane, Washington, in Spokane County. Population of Spokane County in 2000 was 417,939 (United States Census Bureau, 2000). Between 1990 and 2000, Washington's population increased by 21 percent. In the same period of time, Spokane grew by 16 percent. The largest employment categories are education, healthcare, and social services. Public administration is the second largest employment area, regionally. As would be expected, there is a larger portion of the population in the Spokane area employed by the Armed Forces compared with the State (92 CES/CEAN, 2007).

In 2010, the unemployment rate for Washington State and for the Spokane Washington Statistical Area was 9.6 percent (Bureau of Labor Statistics, 2011).

Spokane County has a lower median household income and per capita income and a higher percentage of individuals below the poverty threshold than for the state (USCB, 2011). The percentage of high school graduates is slightly higher for Spokane County than for the state average but the percentage of people holding bachelor's degrees is slightly lower than for the state (USCB, 2011).

Fairchild AFB is the largest employer in the Inland Northwest and employs approximately 5,400 military and civilian employees. The annual payroll of Fairchild AFB is approximately $203 million and it is estimated that Fairchild AFB indirectly creates an additional 2,150 jobs and $82 million in payroll from support jobs throughout the community (92 CES/CEAN, 2007).

Environmental Justice. Spokane County has lower percentages of minority populations than the state. Spokane County has a slightly higher percentage of individuals below the poverty level than the state (USCB, 2011).

Chapter 4: Environmental Consequences

4.1 Introduction

This section describes the anticipated environmental consequences or impacts that could result from implementing the proposed actions. The significance of an action is analyzed in several contexts including several scales as needed, short-term and long-term impacts, direct and indirect impacts, and cumulative impacts.

4.2 Air Quality and Noise

The environmental consequences to local and regional air quality conditions as a result of the proposed action is determined based upon the increases in regulated pollutant emissions relative to existing conditions and ambient air quality. A significant impact would be found if the action led to one or more of the following: 1) cause or contribution to a violation; 2) exposure of sensitive receptors to increased pollutant concentrations; or 3) an exceedance of any evaluation criteria established by a state implementation plan.

Noise impact analysis typically evaluates potential changes to the existing noise environment that would result from implementation of a proposed action. Potential changes in the noise environment can be beneficial or adverse.

4.2.1 Preferred Alternative

Regulated pollutant emissions from the proposed action would not contribute to or affect local or regional attainment status. The proposed action would temporarily result in a slight increase in air pollutant levels in the vicinity during construction activities. Offsite and onsite effects from dust would be abated during construction through dust control measures during construction such as the use of tackifiers and watering of bare soil areas. Fugitive dust situations would be rare and readily dissipated by the westerly flow of winds normal for the area during the construction season. The proposed action would have a no net increase in commuter and personal vehicular emissions regionally. Traffic would be redirected to Fairchild AFB in lieu of locations near downtown Spokane where existing USAR and WAARNG units are located presently. The Preferred Alternative would result in insignificant impacts to traffic.

Calculations were performed to estimate long-term air emissions increases from stationary sources (i.e., generators) and from mobile sources (i.e., convoy trips). Short-term emissions were estimated for construction activities including: combustion emissions from construction worker commuting, material hauling and construction equipment; fugitive particulate matter (PM) emissions from clearing and grading activities, and volatile organic compound emissions from paving operations.

As demonstrated in Appendix C, the total emissions from the Preferred Alternative are below significance criteria. Therefore, it can be concluded that the construction and operation of the Preferred Alternative would not have adverse impacts to air quality.

A short-term impact to the noise environment would occur during construction from heavy equipment. An increase in vehicular noise in the immediate area would occur as a result of the new land use associated with Armed Forces equipment, maintenance, and training operations. This noise is not expected to be different than noise already occurring at Fairchild AFB associated with industrial and maintenance activities. Noise levels at certain times of the day may increase in the area where industrial and administrative activities already exist. No long-term significant impacts to health or quality of life from noise are anticipated from the Preferred Alternative.

4.2.2 No Action Alternative

The No Action alternative would result in unchanged conditions at Fairchild AFB. The base would continue to operate in compliance with all permits, with minimal impact to air quality.

4.3 Water Resources

Evaluation criteria for impacts on water resources are based on water availability, water quality, and impacts to beneficial uses. Standards are established by federal and state law.

4.3.1 Preferred Alternative

Surface Water Quality: Construction and operation of the Preferred Alternative would be compliant with Section 438 of the Energy Independence and Security Act of 2007, which requires that a federal facility with a footprint that exceeds 5,000 square feet use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. These maintenance strategies may include green infrastructure and low impact development practices such as reducing impervious surfaces, using vegetative practices, porous pavements, and cisterns. Use of these strategies is consistent with Leadership in Energy and Environmental Design® (LEED®) design features.

A SWPPP would be prepared prior to construction which would identify potential sources of pollution, best management practices (BMPs) to reduce potential pollutants, and means to ensure compliance with regulations. Stormwater runoff from construction activities would disperse and infiltrate into open fields adjacent to the project site. Runoff from stockpiles would be contained to control the amount of stormwater sediment released during construction as designated by the project SWPPP. After construction, stormwater runoff would flow through an infiltration system. Then, after proper stormwater BMPs have been applied at the construction site as identified in the project SWPPP, it would flow through a stormwater channel know as "No Name Ditch" where it flows east off the installation. Typically, the stormwater infiltrates into the soil, but during periods of high flow will travel

toward an agricultural field and percolate into a suspected paleo channel (92 CES/CEAN, 2011).

After construction, military vehicles, including refueling trucks, would be stored in the MEP area resulting in a potential for leaks or spills of fuel or other petroleum products. Secondary containment would be constructed to prevent spilled fluids from entering the stormwater system. Methods of secondary containment could include portable secondary containments systems or curbing. Staff would be trained in proper spill prevention and spill handling and containment. Containment and cleanup equipment and materials would be available onsite. Spills or leaks would be collected and disposed of according to applicable regulations.

There are no surface watercourses that connect to streams or waters of the state flowing from the Preferred Site. No short-term or long-term, significant, direct impacts to surface waters would occur as a result of the Preferred Alternative.

During construction of the DEPMEDS training area and MEP, there is a higher potential for indirect impacts to water. To minimize this risk, the contractor would be required to prepare and implement an SWPPP prior to construction. This plan requires coordination with 92 CES/CEAN, Environmental prior to submittal of a Notice of Intent to EPA. The contractor must ensure compliance with all US Environmental Protection Agency's Construction General Permit program requirements. Such a plan requires the use of BMPs to protect water quality. When the above stipulations are met, there should be no significant water quality impacts during construction.

Water Availability. Water is supplied by wells located along the Spokane River and pumped to Fairchild AFB. Water availability from these wells is expected to be adequate for any additional demand from the use of the training building on the Preferred Site. Fairchild AFB has been undergoing a water conservation effort and has realized a decrease from 6 million gallons to 4 million gallons per year in the last several years. This decrease suggests that there is at least a 2 million-gallon surplus capacity per year which is ample supply for the additional operational requirements of the DEPMEDS training area and MEP. The Preferred Alternative would result in insignificant impacts to water availability.

Groundwater. The proposed action would likely have no direct effect on area aquifers because no subsurface infiltration is planned. It is possible that during high stormwater flow, stormwater would travel towards the agricultural field and percolate into the suspected paleo channel and into the underlying aquifer. However, increases in groundwater recharge associated with increased impervious surfaces would be expected to be insignificant.

Water quality would not be indirectly adversely affected because stormwater runoff would flow through an infiltration system and, after proper stormwater BMPs have been applied, it would flow through a stormwater channel know as "No Name Ditch" where it flows east off the installation. In addition, spill control measures and secondary containment would be constructed to prevent any leaks or spills of petroleum products from reaching groundwater. When the above stipulations are met, the Preferred Alternative would not result in significant impacts to groundwater.

Wetlands. There would be no direct or indirect impact to wetlands because there are no wetlands within or adjacent to the Preferred Site.

4.3.2 No Action Alternative

The water quality and availability would remain the same as baseline conditions. There would be no potential for water quality impacts during construction, since no such activity would occur. Fairchild AFB would continue to comply with local, state, and federal regulations.

4.4 Geologic Resources

4.4.1 Preferred Alternative

Implementation of the Preferred Alternative would result in an insignificant impact to geologic resources at the Preferred Site. The proposed construction would result in approximately 17 acres of ground disturbance. Potential impacts would be minimized by use of BMPs including weed control and revegetation. All construction activities are guided by Base Construction Standards which include environmental protection standards (92 CES/CEAN, 2007). The general area is level which minimizes hazards.

Earthwork would be planned and conducted in a manner to minimize duration of exposure of unprotected soils. Work would be conducted in accordance with BMPs for erosion control, as outlined by the SWPPP for the proposed project (92 CES/CEAN, 2007). Landscaping of exposed surfaces following completion of construction would minimize the potential for erosion (92 CES/CEAN, 2007). For these reasons, no significant geologic, physiographic, or soil impacts are anticipated as a result of the proposed activities.

4.4.2 No Action Alternative

The No Action alternative results in no change in existing geologic resources.

4.5 Biological Resources

4.5.1 Preferred Alternative

The proposed action would result in the loss of approximately 17 acres of unimproved, dry grassland and open space. The existing quality of the habitat is fair to poor. Some forage of small mammals and birds occurs in the area currently. The area is regularly mowed to discourage birds from foraging to reduce the safety hazard to aircraft and their crews (92 CES/CEAN, 2007). There are over 700 acres of higher quality, unimproved lands with approximately 200 acres of wetlands in the southern portion of Fairchild AFB where wildlife could relocate to when displaced from the proposed area.

The proposed action may directly impact nesting birds that are protected under the MBTA if habitat is cleared during the March 1 to September 31 nesting season (Selser, personal communication, 2011). The Army would not clear vegetation during the migratory bird nesting season without conducting a preconstruction survey for nesting birds that indicates no

nesting birds are present. If nesting migratory birds are found during the preconstruction survey, those areas of the Preferred Site containing nesting birds would not be disturbed or cleared until the young have naturally vacated the nest. Conversion of the Preferred Site from grassland to developed land could result in long-term impacts to migratory birds because the potential use of a stopover area would be lost. However, given the fact that the Preferred Site is regularly disturbed by mowing and the considerable amount of unimproved lands in the area, these impacts would be insignificant. There are no federally- or state- listed species occurring in the project area. There are no known nest sites of protected species within the region of influence of construction noise. A positive effect is anticipated in weed control. An area severely infested by noxious weeds would be converted to hard infrastructure and irrigated landscape reducing the amount of area contributing to weed seed dispersal by 17 acres. Therefore, no significant direct or indirect adverse effects to biological resources are anticipated as a result of the Preferred Alternative.

4.5.2 No Action Alternative

The No Action alternative results in no change in existing biologic resources.

4.6 Cultural Resources

Impacts on cultural resources are addressed under Section 106 of the National Historic Preservation Act and 36 CFR 800. Adverse impacts on cultural resources might include physical alteration, damage, or destruction of all or part of a resource; alteration of characteristics of the surrounding environment that contribute to the resource's significance; introduction of visual or audible elements that are out of character with the property or that alter its setting; neglect of the resource to the extent that it deteriorates or is destroyed; or the sale, or transfer, or lease of the property out of agency ownership without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance.

4.6.1 Preferred Alternative

No NRHP eligible archaeological resources have been documented within or near the region of influence of the Preferred Site. According to the Fairchild AFB ICRMP, the probability is low that undisturbed, significant archaeological resources, including human graves, would be discovered during future construction (92 CES/CEAN, 2005; 92 CES/CEAN, 2007). The ICRMP sets forth standard procedures that must be followed in the event any type of archaeological site is discovered during the course of earth-disturbing activity on base (92 CES/CEAN, 2005; 92 CES/CEAN, 2007). Therefore, the Preferred Alternative would result in no direct or indirect impacts to archaeological resources on Fairchild AFB.

No NRHP-eligible historic resources are located within the region of influence of the proposed structure, with the exception of Building 2050. Building 2050 would not be affected by the Preferred Alternative because Building 2050 is within the industrial area of Fairchild AFB and the proposed construction of the DEPMEDS training area and MEP area is consistent with the surrounding industrial area (Selser, personal communication, 2011). The Preferred Alternative would not result in the demolition or alteration of any historic properties or structures. Therefore, the Preferred Alternative would result in no direct or

indirect impacts to historic structures on Fairchild AFB.

There are no documented sites or areas of known cultural importance to local Native American tribes at Fairchild AFB. Potential is low for discovery of such sites. If Native American remains or cultural resources were to be discovered during construction, activities would be halted and federal officials and Native American tribes would be notified. Therefore, the Preferred Alternative would result in no direct or indirect impacts to Native American concerns.

4.6.2 No Action Alternative

There would be no potential effects relating to cultural resources if the No Action alternative is chosen. No earth-moving would be completed; therefore, no unknown cultural resources could potentially be discovered. Fairchild AFB would continue to be managed as outlined in the ICRMP.

4.7 Infrastructure and Utilities

Effects on infrastructure are evaluated based on their potential for disruption or improvement of existing levels of service and additional needs for energy and water consumption, sanitary sewer and wastewater systems, and transportation patterns and circulation. An effect might be considered adverse if a proposed action exceeds capacity of the infrastructure or utility or disrupts service or operations.

4.7.1 Preferred Alternative

The Preferred Alternative would result in an insignificant, long-term, direct impact to infrastructure and utilities. The Preferred Alternative would not result in additional personnel relocated to Fairchild AFB and, therefore, would not result in additional commuter traffic to and through Fairchild AFB. Convoys of military equipment would occur approximately six times a year and would occur between Fairchild AFB and the Yakima Training Center, approximately 200 miles west of Fairchild AFB. This could result in an insignificant impact to local traffic in the immediate vicinity of Fairchild AFB when the vehicles leave the base and enter the local roadways and when the vehicles reenter the base. However, this would only occur six times a year and would only be a temporary inconvenience during those times. The Preferred Alternative would not require closing or realignment of existing roads.

In accordance with Executive Order 13514(2)(g), the new construction would comply with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings and would implement high performance sustainable principles such as optimizing energy performance, protecting and conserving water, and reducing environmental impacts of materials used during construction. This new training building would tie into existing utilities such as communications, water, sanitary sewer, IT, and stormwater. Additional capacity for the sanitary sewer and potable water would be minimal because new personnel would not be added to Fairchild AFB as a result of the Preferred Alternative. The same personnel currently using the existing AFRC would also be using the maintenance building. There would be an insignificant increase in water for irrigation of landscaping as most of the

17 acres would either be gravel or paved. There would be an increase in solid waste on Fairchild AFB from the new DEPMEDS training area and MEP, although this increase is not expected to be significant because it would likely only be associated with the use of the maintenance buildings and then only on training weekends. These increases would be assimilated through the existing disposal management without impact to existing services.

The maintenance building would tie into existing electrical, communications, and natural gas utilities. Since the largest use of the facility would be on weekends, demand should not impact capacity for these utilities.

4.7.2 No Action Alternative

The No Action Alternative would not impact infrastructure or utilities because infrastructure and utility conditions would not change.

4.8 Land Use

The significance of potential land use impacts is based on the level of land resource sensitivity and compatibility with the proposed action. In general, a land use impact would be significant if it were to be inconsistent or in noncompliance with existing land use or stewardship plans or policies, preclude the viability of existing land use, or conflict with planning criteria established to ensure the safety and protection of human life and property.

4.8.1 Preferred Alternative

Approximately 17 acres would be converted from undeveloped to developed land. The land use classification of industrial would remain the same. Adjacent land use would remain semi-improved, open space to the north and west. To the east, the land use is industrial and to the south, the land use is airfield and industrial. The location of the proposed facility was selected in accordance with Fairchild AFB General Plan (92ARW, 2010). The Preferred Alternative would not result in significant impacts to land use.

Construction of the new DEPMEDS training area and MEP would result in an indirect adverse impact from the displacement outdoor recreation for industrial land. However, this would not result in a significant impact because the driving range is no longer in use. In addition, the Preferred Alternative is in compliance with the Fairchild AFB General Plan, which was developed to minimize adverse impacts to future land use decisions.

4.8.2 No Action Alternative

The No Action Alternative would not impact land use because land use conditions would not change.

4.9 Wastes, Pollution Prevention, Hazardous Materials and Environmental Restoration Program

Impacts on hazardous materials and waste management would be considered significant if the proposed action resulted in noncompliance with applicable federal and state regulations, or

increased the amounts generated or procured beyond Fairchild AFB capacity to obtain permits or for disposal, or the action exposed humans or the environment to adverse impact from contaminated ERP sites.

4.9.1 Preferred Alternative

The Preferred Alternative would require procurement and disposal of hazardous materials such as oils, fuel, paints, and solvents. Some construction materials may contain hazardous materials although it is anticipated that the amount of these materials are minimal during construction and use is temporary.

The USAR, as Fairchild AFB tenants, would be required to follow all Fairchild AFB and Air Force environment management policies governing the procurement, use, and disposal of hazardous materials. These policies are in place to safeguard the public, personnel, and the environment. Specifications for the proposed construction and Air Force regulations prohibit the use of asbestos-containing material and lead-based paint for new construction. New facilities at the DEPMEDS training area and MEP would not contain these materials (92 CES/CEAN, 2007). There are no ERP sites identified within the Preferred Site (CH2M HILL, 2011).

Contractors must prepare a health and safety plan to identify potential hazards. Base construction standards also require contractors to stop work and request an investigation if suspicious materials are uncovered (92 CES/CEAN, 2007).

During construction of the facility, there is a slight chance that a hazardous materials spill could occur. As a precautionary measure, the construction contractor would be trained to take immediate action to contain any spill. The contractor would then be required to contact the Fairchild AFB Environmental Flight group. The contractor would be held liable for the cleanup of any spill that may occur, in accordance with applicable regulations (92 CES/CEAN, 2007).

The groundwater monitoring well (MW-303) on the Preferred Site would either be closed and removed, or incorporated into the site design (Figure 2). Coordination with 92 Civil Engineering Squadron/Civil Engineering Asset Management concerning relocation or closure of the well would occur prior to construction.

The Preferred Alternative would not result in significant impacts to the Fairchild AFB ERP or to the environment from the use or storage of hazardous materials or wastes

4.9.2 No Action Alternative

It is anticipated that the volume of hazardous materials purchased and hazardous wastes generated would continue at current levels. Existing management procedures would continue to be followed.

4.10 Safety and Occupational Health

Adverse impacts to safety might include death, serious bodily injury or illness, or property damage. A safe environment is one in which potential for these impacts is eliminated or reduced as much as possible. Human health and safety addresses workers' health and safety during burning, demolition, and construction activities, and public safety during burning, demolition, and construction activities and subsequent operations of those facilities.

4.10.1 Preferred Alternative

There are no major safety and occupational health consequences related to the Proposed Action. Construction contractors are trained so that work would be performed in accordance with safety and occupational health standards, such as those required by the OSHA. The contractor would be required to submit a site-specific safety and health plan, as described in the Army Corps of Engineers Manual 385-1-1, *Safety and Health Requirements*.

There would be no impact to safety of personnel related to proximity to an explosive area because the Preferred Site is not within or adjacent to a designated explosive arc zone.

There would be no impact to safety of personnel related to jet blast because the DEPMEDS training area and MEP area is sited outside the minimum distance for safe operations from the nearest source of potential jet blast for aircraft that typically use Fairchild AFB. In addition, the DEPMEDS training area and MEP is outside the 900 feet of potential jet blast from larger aircraft that occasionally use Fairchild AFB. The Preferred Alternative would not result in significant impacts to safety or occupational health.

4.10.2 No Action Alternative

The No Action Alternative would not impact safety of Fairchild AFB or Armed Forces personnel because no change would occur in the existing work environment.

4.11 Socioeconomics

The threshold level for significant impacts to environmental justice populations is defined as the level at which disproportionately high and adverse impacts to these populations would occur. The threshold level of significance for impacts to socioeconomics would be a substantial increase in population, displacement of people or housing, or unacceptable reductions in levels of service for fire and police protection, schools, parks and recreation, and other public services. The threshold level for significant impacts to children is defined as the level at which disproportionate impacts to children's health and safety would occur.

4.11.1 Preferred Alternative

There would be an insignificant, temporary benefit to the local economy from construction-related wages and spending. The construction of the DEPMEDS training area and MEP area would have no potential to disproportionately impact minority or disadvantaged populations. No additional land beyond that already owned by the federal government would be required. No jobs would be lost and no one would be displaced as a result of the Preferred Alternative.

The Preferred Alternative would not result in significant impacts to socioeconomics in the area.

4.11.2 No Action Alternative

The No Action Alternative would not impact socioeconomics or environmental justice on or around Fairchild AFB because no change to the existing socioeconomic conditions would occur.

4.12 Cumulative Impacts

Cumulative impacts are the incremental effects of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. The degree and kind of impact may be different depending on the length of time the impact occurs or the extent of area the impact is exhibited; in other words, time and space. Generally, assessing impacts to water resources require assessment of several geographic scales and often long spans of time. In contrast, impacts to infrastructure can be observed within a short time frame and over a smaller geographic area.

4.12.1 Preferred Alternative

Stormwater management is a challenge in portions of Fairchild AFB particularly with increasing development. In Section 4.3, the direct effects of developing approximately 17 acres of open space to include increases in impervious surfaces were found to be not significant due to planned connections to the stormwater conveyance and treatment system and from overland flow onto local geologic characteristics that dissipate runoff rapidly. The actual area of impervious surfaces constructed for the DEPMEDS training and MEP area is approximately 10 acres. Currently, there is over 100 acres of undeveloped, pervious surface in the general area which buffers the effects of the project; however, additional increases in impervious surfaces have the potential to cumulatively reduce the natural dissipation rate of stormwater in the area and have a potential adverse impact. A reduction in the number of units of military family housing which was recently completed and a reduction in the size of the airfield which is ongoing both contribute to reducing impervious area on Fairchild AFB, which will reduce the potential cumulative impact on adding 10 acres of impervious surface.

Open space would be reduced by approximately 17 acres. The area has been used for military exercises and is kept mowed to deter bird foraging that can present a safety hazard to aircraft. Currently the value of open space to wildlife is fair to poor.

Increases in use of infrastructure, utilities, services, and other resources would be accommodated within the existing framework of policies and regulations and asset capacity without significant impact. The Fairchild AFB General Plan identifies capacity to expand and assimilate new operations.

4.12.2 No Action Alternative

The No Action Alternative would not result in a change in current conditions; therefore, there would be no cumulative effects at Fairchild AFB.

Chapter 5: List of Preparers

Prepared by: Laura Haught
CH2M HILL
7927 Nemco Way, Suite 120
Brighton, MI 48116

Chapter 6: Persons Consulted and/or Provided Copies

Mr. Jonathan Wald	92 CES/CEA	Fairchild AFB, WA
Mr. Ron Horlacher	92 CES/CEAN	Fairchild AFB, WA
Ms. Danielle Adams	92 CES/CEAN	Fairchild AFB, WA
Mr. Steven Selser	92 CES/CEAN	Fairchild AFB, WA
Mr. Marc Connally	92 CES/CEAN	Fairchild AFB, WA
Mr. William Sheldon	92 CES/CEAN	Fairchild AFB, WA
Ms. Meline Skeldon	88th RSC	Seattle, WA
Mr. Scott McKean	88th RSC	Seattle, WA
Mr. Sean DeMars	88th RSC	Fairchild AFB, WA
Mr. William Schell	88th RSC	Vancouver, WA
Mr. Mark Flumerfelt	88th RSC	Minneapolis, MN
Ms. Cristie Mitchell	USACE	Louisville, KY
Mr. Ira Silverberg	ARIM-D	Arlington, VA

City of Spokane – Planning Services Department

City Hall
808 W. Spokane Falls Blvd.
Spokane, WA 99201-3329

City of Airway Heights – Planning Division

P.O. Box 969
Airway Heights, WA 99001

References

92 Air Refueling Wing (ARW). 2010. General Plan. Fairchild Air Force Base, WA.

92 CES/CEAN. 2005. Integrated Cultural Resources Management Plan. Fairchild Air Force Base, WA.

92 CES/CEAN. 2010. Storage Tank Management Plan 92d Air Refueling Wing. May.
92 CES/CEAN 2011. Integrated Natural Resources Management Plan. Fairchild Air Force Base, WA.

92 CES/CEAN. 2007. Final Environmental Assessment: Armed Forces Reserve Center – Fairchild Air Force Base, Washington, January 2007.

92 CES/CEAN. 2006. Environmental Baseline Survey. Fairchild Air Force Base, WA.

Adams, Danielle/Fairchild AFB – Remedial Project Manager. 2011. Personal Communication with Sara Kent/CH2M HILL and Laura Haught/CH2M HILL. September 19, 2011.

CH2M HILL. 2011. Environmental Condition of Property. United States Army Reserve Construction Project. Fairchild Air Force Base. August, 2011.

EA Engineering, Science, and Technology, Inc. 2011. Phase II Quantitative Assessment Work Plan Fairchild Air Force Base. April.

Fairchild AFB. 2010. 2010 Annual Consumer Confidence Report on the Quality of Tap Water Distributed on Fairchild Air Force Base, Washington.

Federal Emergency Management Agency (FEMA). 2010. Flood Insurance Rate Map of Spokane County, Washington (Map No. 53063C0500D).

McKean, Scott/88th RSC West Region. 2011. Personal Communication with Andrea Naccarato/CH2M HILL. September 19, 2011.

Natural Resources Conservation Service. 2011. Online web soil survey. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed on July 21, 2011.

NatureServe. 2011. *Bartramia longicauda* – Upland Sandpiper. Website: http://www.natureserve.org/infonatura/servlet/InfoNatura?searchName=Bartramia+longicauda. Accessed on August 15, 2011.

Parsons Engineering Science, Inc. 2000. Final Risk-Based Site Assessment Report and Remedial Action Plan for the East Defuel Site, Fairchild Air Force Base, Washington. November.

Selser, Steven/Fairchild AFB – Natural and Cultural Resources Manager. 2011. Personal Communication with Laura Haught/CH2M HILL. August 2, 2011.

Shelton, William/Fairchild AFB – Water Quality/Tank Program Manager. 2011. Personal Communication with Sara Kent/CH2M HILL. September 23, 2011.

United States Army Corps of Engineers, Omaha District and Sky Research, Inc. (USACE and Sky Research). 2009. Draft Fairchild Air Force Base, Washington Comprehensive Evaluation Phase II, Military Munitions Response Program.

URS Group, Inc. 2007. Final Report Comprehensive Site Evaluation Phase 1 Fairchild Air Force Base, Washington. September.

Utah Department of Natural Resources, Division of Wildlife Resources (UDNR). 2011a. Ferruginous Hawk. Website: http://dwrcdc.nr.utah.gov/rsgis2/search/Display.asp?FlNm=buterega. Accessed on August 24, 2011.

Utah Department of Natural Resources, Division of Wildlife Resources (UDNR). 2011b. Sharp-Tailed Grouse. Website: http://dwrcdc.nr.utah.gov/rsgis2/search/Display.asp?FlNm=tympphas. Accessed on August 15, 2011.

United States Census Bureau. 2010. Spokane County Quick Facts. Available online: http://quickfacts.census.gov/qfd/states/53/53063.html.

United States Fish and Wildlife Service (USFWS). 1996. Recovery Plan – Water Howellia. Draft. September.

United States Fish and Wildlife Service (USFWS). 2011a. Species Fact Sheet – Washington Ground Squirrel. http://www.fws.gov/oregonfwo/Species/Data/WashingtonGroundSquirrel/ Accessed on August 2, 2011.

US Fish and Wildlife Service (USFWS). 2011b. Critical Habitat Mapping http://criticalhabitat.fws.gov/. Accessed on August 2, 2011.

Washington Department of Natural Resources (WDNR). 1997. Haplopappus liatriformis (Greene) St. John, Palouse Goldenweed, Asteraceae (Aster Family). Website: http://www1.dnr.wa.gov/nhp/refdesk/fguide/pdf/hali.pdf. Accessed on August 15, 2011.

Washington Department of Natural Resources (WDNR). 1999. Polygonum austiniae, Austin's Knotweed. Website: www1.dnr.wa.gov/nhp/refdesk/fguide/pdf/poau.pdf. Accessed on August 16, 2011.

Appendix A

Final Environmental Assessment: Armed Forces Reserve Center – Fairchild Air Force Base, Washington, January 2007 (text only)

EA Control No. 06-017

ENVIRONMENTAL ASSESSMENT

ARMED FORCES RESERVE CENTER
FAIRCHILD AIR FORCE BASE, WASHINGTON

DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
FAIRCHILD AIR FORCE BASE, WASHINGTON

JANUARY 2007

COVER SHEET

ENVIRONMENTAL ASSESSMENT

CONSTRUCT ARMED FORCES RESERVE CENTER FAIRCHILD AFB, WASHINGTON

Responsible Agency: Department of the Air Force, Air Mobility Command, Fairchild Air Force Base (AFB), Washington.

Proposed Action: Construct Armed Forces Reserve Center (AFRC). Project is located at Fairchild AFB, Spokane County, Washington.

Contact Information: Comments and inquiries regarding this document should be directed to: Public Affairs, 1 East Bong St., Fairchild AFB, WA 99011. Phone: (509) 247-5704.

Report Designation: Environmental Assessment

Public Review Period: Public review was conducted from January 18 through February 17 2007.

Abstract: As a part of the decisions made by the Base Realignment and Closure (BRAC) Commission, the U.S. Army Reserve and Washington Army National Guard Armory based in Spokane, WA is consolidating and moving their operations to Fairchild AFB. In order to meet requirements of this transformation, facilities and infrastructure improvements are required. Several alternative locations on base were explored and are presented in the environmental analysis. The No Action alternative, which is a non-viable alternative, provides contrast and comparison to the viable alternatives and their relative environmental affects. No significant impacts would result from implementation of the Proposed Action or the No-Action Alternative.

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LIST OF ACRONYMS AND ABBREVIATIONS

AICUZ	Air Installation Compatible Use Zone
AFRC	Armed Forces Reserve Center
ARW	Air Refueling Wing
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EOD	Explosive Ordinance Disposal
EPA	U.S. Environmental Protection Agency
FONSI	Finding of No Significant Impact
FAFB	Fairchild Air Force Base
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority Listing
PM	Particulate Matter
POV	Privately Owned Vehicle
PPA	Pollution Prevention Act
RCRA	Resource Conservation and Recovery Act
TSD	Treatment, Storage and Disposal
WAARNG	Washington Air Reserve National Guard
USAF	United States Air Force

Chapter 1: Purpose and Need for Action and Scope of Analysis

1.1 Introduction and Background

In 2005, the Department of Defense's Base Realignment and Closure (BRAC) Commission identified transformations to realign the nation's defense organization. BRAC determined that the PFC Joe E Mann Hall U.S. Army Reserve Center #80 and 1st LT Richard H. Walker Army National Guard (WAARNG) Armory in the Spokane area would consolidate and relocate to Fairchild Air Force Base (FAFB). BRAC determined that current facilities do not have sufficient capacity for consolidation or expansion and do not meet current force structure or unit design requirements and that FAFB has sufficient building capacity or build-able acres to support the consolidation. The consolidated organizations are referred to as Armed Forces Reserve.

This environmental assessment (EA) will determine whether the proposed action of sighting a joint facility for the new Armed Forces Reserve Center on FAFB would result in any significant impacts. If impacts are predicted, mitigation would be prescribed to reduce impacts below the level of significance or recommend the preparation of an Environmental Impact Statement to address unmitigated impacts or abandon the proposed action. This EA would also be used to guide the implementation of the proposed action consistent with laws, regulations, and U. S. Air Force standards for environmental stewardship.

Chapter 1 includes background information relevant to the proposed action, the purpose and need for the proposed action, an overview of the scope of the analysis and a summary of key environmental compliance requirements.

1.2 Purpose and Need for the Proposed Action

The Armed Forces Reserve require facilities that provide for training, administration, equipment maintenance, general storage, equipment and personnel parking, assembly of personnel, and all associated facilities to support these activities. Personnel involved to support operations and utilize the facility for training purposes would fluctuate but current estimates are 800-1000 personnel.

1.3 Objectives of the Action

The objective of this action is to provide facilities for the WAARNG and the Army Reserve management requirements while maintaining compatibility with other operations at FAFB and with a minimum of environmental impact.

1.4 Scope of the Environmental Assessment

This EA will evaluate, to the fullest extent possible, the environmental consequences of the proposed action and alternatives on the affected environment, as well as possible cumulative impacts from other reasonably foreseeable actions. The data obtained through completion of the EA will in turn be utilized to assist decision making authorities in making environmentally informed decisions. This EA is being completed in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969.

The evaluation will determine whether the proposed action would result in environmental impact significant enough to warrant preparation of an Environmental Impact Statement (EIS), or whether the action would qualify for a Finding of No Significant Impact (FONSI).

Resources to be considered include: air quality, water resources, noise, geologic resources, biological resources, cultural resources, infrastructure and utilities, land use, wastes and hazardous materials, safety and occupational health, and socioeconomic resources.

1.5 Summary of Key Environmental Compliance Requirements

National Environmental Policy Act of 1969 (NEPA), as amended

NEPA requires all Federal agencies to use a systematic, interdisciplinary approach in decision making which may have an impact on man's environment. Therefore, NEPA directs agencies to assess expected environmental impacts of all Federal actions and proposals. In turn, this data must be considered in the decision making process. Compliance with NEPA is accomplished through the guidance outlined in 32 CFR 989, Environmental Impact Analysis Process (EIAP).

Other Environmental Statutes and Regulations

To comply with NEPA, this analysis considers other relevant environmental statues and regulations. According to the Council on Environmental Quality regulations, requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively." Appendix C contains examples of relevant laws, regulations, and other requirements that are often considered as part of the analysis.

Chapter 2: Description of Proposed Action and Alternatives

2.1 Introduction

The proposed action is to provide facilities to support operations of the combined units of the U.S. Army Reserve and Washington Army National Guard (WAARNG), herein called Armed Forces Reserve Center. The principal operational requirements are for a campus-like facility that provide for assembly, training, equipment parking and maintenance, personnel parking, and associated support facilities. The concept design of the compound calls for the following facilities:

1) Armed Forces Reserve Center (AFRC) – A main building approximately 80,900 square feet (s.f.) for office space, assembly hall with kitchen, classrooms and a distance learning center, weapons training simulator, and support areas such as toilet, mechanical ,electrical, telecommunications, and IT.
2) Unit Storage Area – A facility adjacent to the AFRC, approximately 23,800 square feet, that would house caged storage areas for organizational equipment.
3) Maintenance Shop/Storage Area (OMS/AMSA/FMS) – Several bays and support area for equipment maintenance and training, approximately 34,800 square feet. Required for these operations is a controlled waste and flammable material storage area either co-located within or in a separate facility near the shop area.
4) Unheated Storage Area – A covered area for supply and equipment storage not requiring a controlled climate, approximately 9,600 square feet.
5) Military Equipment Parking Area – The area is located near the Maintenance Shop/Storage Area, approximately 61,600 square yards (SY). Two wash racks are to be located in this area and would require a compliant solids interceptor and oil-water separators.
6) Personnel Parking Area – approximately 16,800 SY.
7) Additional facilities include fencing, landscaping and other site improvements, and tie-in with FAFB utilities and storm water system. Also, an option exists to provide an approximately 87,800 s.f. Unheated Storage Facility. This facility would serve as covered vehicle parking but, would not be an enclosed facility.

2.2 Selection Criteria for Alternatives

Viable alternatives must consider requirements including safety, cost effectiveness, efficiency, Armed Forces Reserve Center operations, and compatibility with other FAFB operations. Environmental criteria considered must include: air quality, water resources, geologic resources, biological resources, cultural resources, infrastructure and utilities, land

use, noise, wastes and hazardous materials, pollution prevention, socioeconomic resources, safety and occupational health; and environmental management.

2.3 Alternatives Considered but Eliminated from Detailed Study

Several location alternatives were considered and eliminated based upon anticipated conflicts with requirements stated in Section 2.2. These alternative locations were:

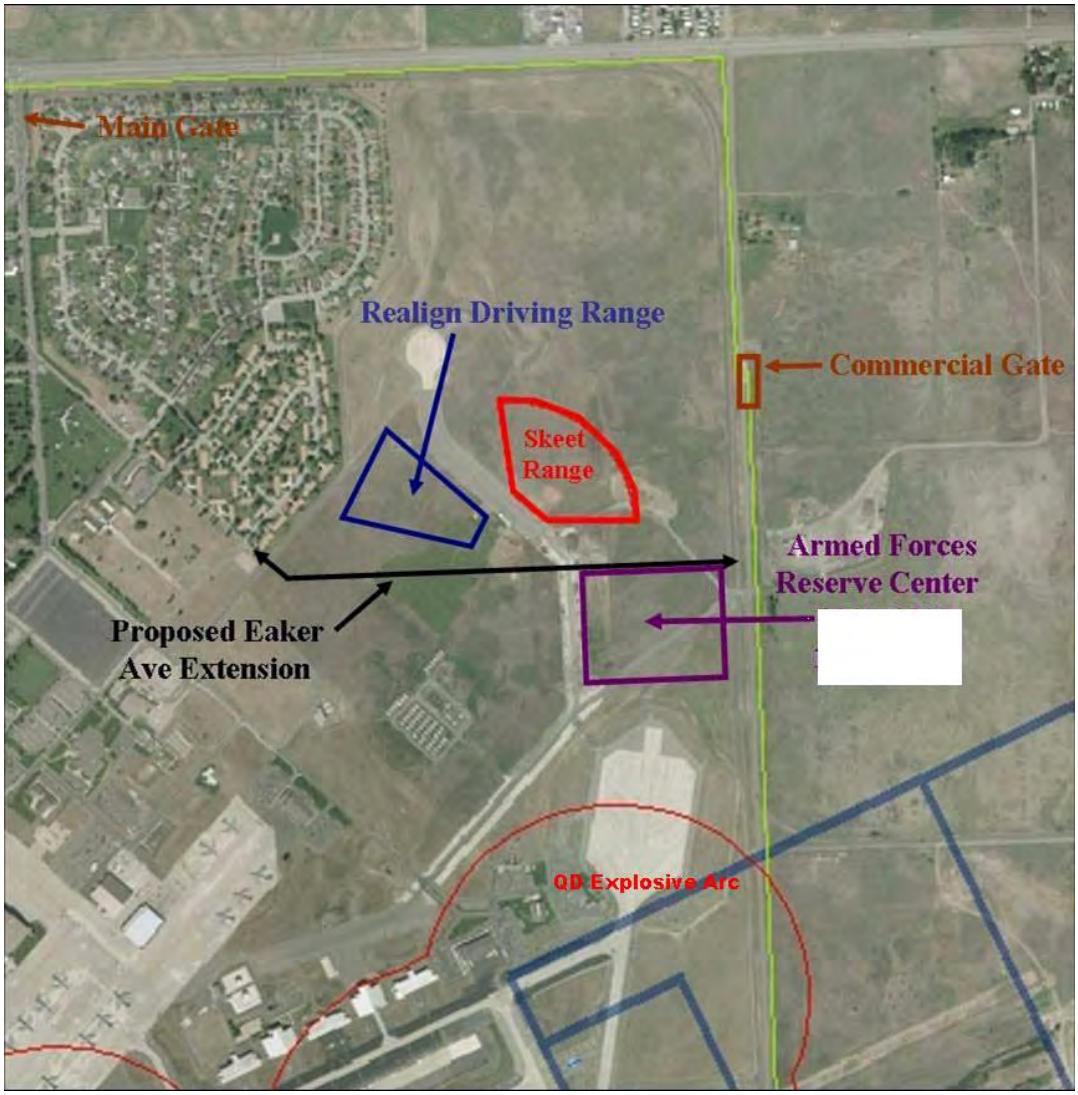
1) Between Grant Street/ O'Malley Avenue on both sides of Patriot Boulevard
2) North of McFarlane Road/ West of Graham Road, an excess Army Capehart Family Housing Area
3) South of the Hospital, an excess Army Capehart Family Housing Area and North of El Paso Avenue

Alternatives 2 and 3 require demolition of excess residential housing and require acceleration and/or change in the execution of the Military Housing Privatization program. Alternative 1 is a smaller area than the proposed location and may have unduly constrained future mission expansion. These reasons were viewed as not compatible with the Armed Forces Reserve Center mission and cost of implementation was far above the cost of the proposed alternative.

2.4 Description of Alternatives

Alternative 1 is the preferred alternative. This alternative consists of construction of facilities as listed in Section 2.1 and located north of Gate 23 Road (see Figure 1). The compound area encompasses about 30 acres and is convenient to the Rambo Entry Gate. The compound will require realignment of Gate 23 Road routing Base access from the north and along the western edge of the new Armed Forces Center.

Figure 1. Alternative 1 – Preferred. Location of Armed Forces Reserve Center



Alternative 2 is to assimilate WAARNG and Army Reserve operations into existing infrastructure. This would require consolidation, sharing, and relocation of 92 Air Refueling wing (92ARW) functions to provide for the space needed for the newly combined Armed Forces Reserve. Several warehouse buildings and associated parking areas could accommodate the relocation. These buildings are currently occupied by existing mission related functions.

The No Action alternative serves as a baseline against which other alternatives can be evaluated. This alternative is required under the Council on Environmental Quality regulations. Under the No Action alternative, the BRAC relocation of the WAARNG and the Army Reserve to Fairchild AFB would not be accomplished.

Chapter 3: Affected Environment

3.1 Introduction

Fairchild AFB is an Air Mobility Command (AMC) Base located in Spokane County, eastern Washington, approximately 12 miles west of the city of Spokane. Communities located near the base include Airway Heights and Medical Lake. Fairchild AFB consists of a main installation and several satellite installations located elsewhere west of Spokane. The main installation consists of 5,823 acres and 1,259 buildings. Fairchild AFB is a tanker hub, 92 Air Refueling Wing (92ARW), and operates currently 35 KC-135 aircraft with 56 aircrews. FAFB personnel average about 4500 military and civilians. In addition to 92 ARW, 15 tenant units, including Air Education and Training Command (AETC) Survival School, 141st Air Refueling Wing, and Washington Air National Guard (WANG) occupy the Base.

3.2 Air Quality and Noise

Air Quality

Of the six criteria pollutants identified by the U.S. Environmental Protection Agency (EPA), two are of concern in Spokane County, specifically carbon dioxide (CO) and particulate matter (PM). Motor vehicles are the largest contributors to CO, with the highest concentrations occurring during the winter months. PM comes from a variety of sources including dust from unpaved and paved roadways, construction activities, gas and diesel engines, and indoor/outdoor burning.

Spokane County is within the Eastern Washington-Northern Idaho Interstate (EWNII) Air Quality Control Region. Spokane County is classified as being in attainment with all criteria pollutants (USEPA 2004b). CO and PM Attainment Plans rely on control strategies for tracking vehicle miles traveled; vehicle emissions inspection and maintenance programs; oxygenated fuels; transportation conformity; control measures for residential wood combustion and control strategies for windblown dust.

The Spokane County Air Pollution Control Authority works with FAFB in monitoring and implementing the installation's stationary source permits and emissions inventory. Emissions from mobile sources are not tracked on FAFB. FAFB is classified as a synthetic minor pollution source and has voluntary limits on air emissions. There are various stationary combustion sources at FAFB, mostly from boilers and generators; volatile sources from organic liquids, and miscellaneous particulate sources from abrasive blasting, woodworking equipment, and a dust collection system designed to capture emissions from a firing range.

Regional wind patterns generally transport air pollutants eastward from FAFB toward the Spokane Valley. Winter months have the highest incidences of degraded air quality due to wood burning stoves and vehicular emissions. These emissions are exacerbated by temperature inversions, stagnant air reduces air quality, and valley topography.

Noise

Locally, noise sources are general construction, vehicular movement along Interstate 90, U.S. Route 2 and secondary commuter roads, and aircraft at FAFB, and Spokane International Airport. Other sources with varying frequency are the Spokane Raceway along Hayford Road and firing range activities on FAFB and along the Spokane River. Residential development is increasing in the area, mostly of rural character although several large high density housing areas are under construction within five miles of FAFB and within ½ mile of Spokane Raceway. Highest density housing is located in the communities of Medical Lake and Airway Heights located about 2 miles from FAFB. FAFB is currently updating the Air Installation Compatible Use Zone study that identifies the range of noise impacts to local communities relative to training flight operations (e2m 2006).

3.3 Water Resources

Fairchild Air Force Base is located at the hydrologic head of three watershed basins; the Lower Spokane River, Hangman Creek, and the Palouse River. FAFB contains several open drainage ditches, storm water detention ponds/swales, and isolated wetlands. The topography is nearly flat to undulating with no indication that surface runoff is conveyed by surface flow to stream channels within these watersheds. The primary function of surface water features on the Base is temporary containment of storm water and groundwater recharge. The general area is represented by varying depths of groundwater perched by hard basalt bedrock or lenses of clay in surficial glacial melt water deposits. Depths range from 5 -40 feet. Two deep aquifers are the primary source of water to surrounding communities, residences, and agriculture. Well depths range from 100-200 and 400-500 feet.

No surface storm water catchment is indicated in the immediate vicinity of the proposed facility. Underground conveyance is within the vicinity. Runoff from the undeveloped area in Alternative 1 is currently dispersed by overland flow and infiltrates rapidly into sandy soils. Engineered catchment and conveyance of storm water is designed elsewhere on Base and drains to a passive treatment system of settling ponds prior to being routed to an adjacent agricultural field. Surface waters are infiltrated into native soils within about one half mile of the settling ponds.

The FAFB Storm Water Pollution Prevention Plan (SWPPP) was written to identify existing and potential sources of storm water pollution. The current systems are in compliance with all state and federal storm water regulations. As a Air Force and Base standard, a site SWPPP is required for all construction activities.

FAFB has a contract with the City of Spokane for treatment of sanitary sewage. The sewage is routed to the Spokane Regional Wastewater Treatment Facility located on the Aubrey L. White Parkway adjacent to the Spokane River. Treated water (tertiary treatment) is then discharged into the Spokane River. Much of the Spokane River presently violates Washington State water quality standards for various pollutants from many different sources. Currently, Total Maximum Daily Load (TMDL) plans are in place to clean up the Spokane River water. TMDLs for dissolved oxygen and PCBs are currently in place, while TMDLs would most likely be developed for chromium and temperature.

3.4 Geologic Resources

General topography of FAFB is flat and the average elevation is approximately 2340 feet. Fairchild is located on an intermountain plain and is situated on the channeled scablands of the Columbia Basin. To the south of the Base, the terrain blends into the rolling, deep loess topography of the Palouse that extends southward to the Snake River. The channeled scablands where formed from catastrophic floods during ice dam breaks in glacial times and are a major part of the landscape from the Spokane area southwestward to Moses Lake and as far south as the Columbia River.

Soils in the channeled scablands can be quite variable and contrasting. Typically soils consist of shallow regolith underlain by basalt bedrock with a thin layer of volcanic ash influenced loess on the surface. Deeper soils occur associated with glacial flood and melt water deposits of sand, silts, and clays. Remnant clayey lacustrine materials or deeply weathered basalt bedrock often perch water tables in the area.

The proposed project area has been disturbed and altered by previous earth-moving activities, used as storage area for rock and debris, and a portion is a mowed field that supports grasses and noxious weeds. Natural Resource Conservation Service (NRCS 2006) mapped the Cheney-Uhlig map unit in the area. These soils are characterized as sandy and gravelly glaciofluvial deposits with loess and volcanic ash surface layers. Soils are well drained, very deep, and have moderate over very rapid permeability.

3.5 Biological Resources

Improved and semi-improved areas make up 80% of FAFB and are mostly found in the northern portion of the base. Non-native landscaping and groundcover in the improved areas have removed much of the historic vegetative cover. The semi-improved areas are primarily composed of mowed non-native and native grasses. The remaining 1,000 acres is undeveloped land that contains open grass fields, stands of ponderosa pines, wetland areas, native grassland and shrubs, and areas of mixed native and non-native grasses and invasive weeds.

The proposed project area is managed as semi-improved, non-irrigated and is vegetated with introduced and native grasses. Abundant noxious weeds dominate much of the area. The area is mowed to reduce weed seed dispersal and to minimize the hazard of bird foraging near the runway.

In general, wildlife habitat and species present within the project area and at Fairchild AFB are typical of urban and suburban areas and open pine savanna. Migratory birds and raptors common to eastern Washington frequent the area. Small mammals include mice, voles, coyote, marmot, and pocket gophers. A small deer herd is isolated within the boundary fence, numbers about 40, and roams the southern end of the Base.

Silene spaldingii and *howellia aquatilis* are threatened plant species, both federally and state listed. They occur in the southern portion of the Base, in an unimproved area well away from

the proposed project area and within a designated conservation area. The community type, *pinus ponderosa/symphocarpus albus* is listed as a rare community type by the state of Washington and occurs in isolated pine stands in the southern portion of the Base, well away from Alternative 1's proposed project area. No other threatened or endangered species have been identified by surveys conducted by the Nature Conservancy, the Washington State Department of Natural Resources, or Eastern Washington University.

Several bird species, designated as Federal species of concern, state candidate species, state monitor species, or state sensitive species have been sighted or are known to have nested near or on FAFB. Most of these species are migratory in nature. These species include: golden eagle, burrowing owl, grasshopper sparrow, western bluebird, red-necked grebe, great blue heron, turkey vulture, Caspian tern, black tern, and osprey. The white-tailed jackrabbit, a state candidate species, is known to occur adjacent to FAFB but has not been sighted for many years on the Base. Columbian ground squirrel and American badger, both being carefully monitored by the Washington Department of Fish and Wildlife, have been documented as occurring at FAFB but recent surveys (EWU 2005) have not indicated their presence on Base. The likelihood of these species nesting or denning in the area proposed by Alternative 1 is very small. There are no trees or structures to accommodate nesting and the level of disturbance from human activity is relatively high in the area.

Over 200 acres of wetlands occur at Fairchild AFB. Nearly all of the wetlands are found in the southern portion of the base, far from the proposed project location.

3.6 Cultural Resources

Cultural resources include prehistoric and historical archaeological sites, buildings, structures, districts, artifacts, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, or religious purposes. Five complete historical and archaeological surveys of installation lands have been completed at Fairchild AFB. Findings include six archaeological sites, one of which may be eligible for nomination to the National Register of Historic Places. Two WWII and two Cold War buildings may be eligible for inclusion in the National Register. One additional WWII building is eligible for nomination to the National Register. None of these sites or structures are located in the region of influence of the proposed project. There are no documented sites or areas of known cultural importance to local Native American tribes on base holdings and the potential for discovery of such sites is low. The probability is also low that undisturbed, significant archaeological resources, including human graves, would be discovered on Fairchild AFB during future construction.

No known prehistoric or historic resources have been identified and no known potential for historic resources has been identified in cultural surveys of the proposed project site.

3.7 Infrastructure and Utilities

Infrastructure consists of the systems and physical structures that enable a populace to function and to accommodate mission operations. On FAFB infrastructure includes a

transportation network, utilities, communications, airfield and support buildings, water supply, sanitary systems and wastewater, administrative and maintenance buildings, and solid waste disposal.

The site of the proposed action is an undeveloped area and contains nearby buried infrastructure and transportation network. Alternative 1 proposes to tie into existing support infrastructure. The current through road to the main base from the Rambo Gate will be rerouted and access to Gate 23 Road will be by way of Sport Range Road from a new road constructed to the north of the new AFRC compound. Figure 2 illustrates locations of existing utilities and infrastructure proximate to the proposed location for Alternative 1.

The proposed siting of AFRC is near the end of the airfield just north of an aircraft parking area called the "Christmas Tree". The area is used intermittently and has the requirement to accommodate the existing aircraft as well as emergency use of larger aircraft.

Figure 2 Infrastructure and Proposed Site Location of AFRC – Alternative 1

3.8 Land Use

Land use refers to real property classifications of conditions and uses either present or in planned future goals. The objective of land use planning is to ensure orderly growth and compatible uses.

Locally, Fairchild AFB is surrounded primarily by agricultural uses, with increasing residential development. The nearest town, Airway Heights, is approximately two miles to the east. State Route 2 moves local and regional traffic from the City of Spokane and Airway Heights to local roads, to FAFB and to the west.

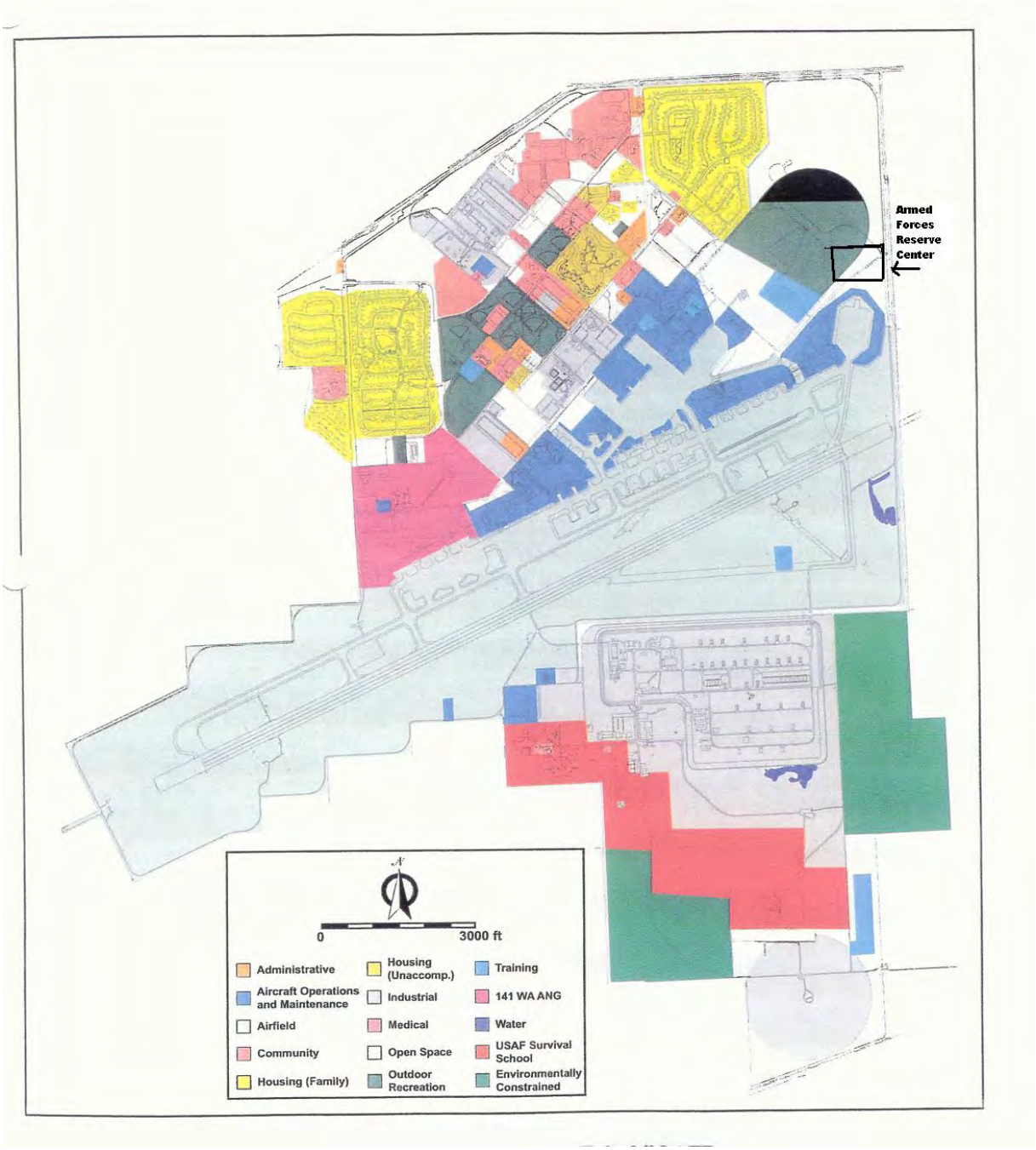
FAFB land use classifications are: airfield/industrial, community, administrative, open space, outdoor recreation, training, Survival School Area, and Washington Air National Guard. Constraints to land uses are safety zones around potentially explosive areas, wetlands, threatened and endangered species and habitats, cultural resources, and other areas that present public hazards such as contamination sites. Table 1 summarizes the various existing and planned land uses and their area on FAFB. Figure 3 shows the locations of land use classifications for FAFB.

Table 1: Current Land Use/Constraints at FAFB

Land Use Category	Current Use (acres)	Planned Future Use (acres)
Administrative	83	242
Airfield, Maintenance, Industrial, Training	2022	2082
Community	473	742
Outdoor Recreation	203	113
Survival School	90	238
WA Air National Guard	65	107
Wetlands	212	212
Conservation Area	72	72

FAFB main installation is about 4500 acres. The area designated for future use is 3808 acres. The remaining 700 acres is occupied by roads, the “wildlife area”, and other lands available for development. The proposed area for Alternative 1 is within one of the larger undeveloped parcels on FAFB.

Figure 3. FAFB Land Use Classifications and Proposed Armed Forces Reserve Center Location



3.9 Wastes, Pollution Prevention, and Hazardous Materials

Hazardous material is defined as any substance with physical properties of ignitability, corrosively, reactivity, or toxicity that could cause an increase in mortality, serious irreversible illness, and incapacitating reversible illness or that might pose a substantial threat to human health or the environment.

Hazardous materials and waste at FAFB include flammable solvents, fuels and lubricants, paint/coating, stripping chemicals, waste oils and solvents, contaminated fuels and lubricants, waste paint-related materials, disposal of legacy building materials such as asbestos and lead based paint. FAFB produces more than 1,000 kg of hazardous waste per month and is considered a large quantity hazardous waste generator. Approximately 75 percent of wastes are generated from aircraft maintenance activities, 10 percent from motor vehicle maintenance activities, 10 percent from civil engineering activities, and 5 percent from other sources. There are 187 satellite accumulation points on the installation and one 90 day accumulation site. Waste containers are picked up and transported to an off-installation licensed Treatment, Storage, and Disposal Facility.

Hazardous Materials. Air Force Instruction (AFI) 32-7086, *Hazardous Materials Management* establishes procedures and standards governing procurement, issuance, use or disposal of hazardous materials and tracking and recording keeping for public safety and for compliance with all laws and regulations. FAFB monitors environmental permits, storage, spill prevention and response.

Hazardous Waste. AFI 32-7042, *Solid and Hazardous Waste Compliance* directs roles and responsibilities with waste stream management including planning, training, emergency response, and pollution prevention. Hazardous wastes generated at FAFB include flammable solvents, contaminated solids, stripping chemicals, used oils, waste paint-related materials, and other miscellaneous items.

Hazardous and toxic material procurements on FAFB are approved and tracked by the appropriate members of the hazardous materials team. Base Supply personnel receive, inspect, distribute, and track hazardous materials. In 1996, a "pharmacy" system for the distribution of hazardous materials was implemented at FAFB. The purpose of the pharmacy system is to minimize and control the use of hazardous materials in order to minimize the generation of hazardous wastes. In addition, current inventories of hazardous materials are assessed to determine if less-toxic alternatives exist. Bench stock quantities of materials are distributed to authorized recipients on an as needed basis. Any unused portions of the hazardous materials are returned to the issue point to be made available for other users.

Pollution Prevention. AFI 32-7080, *Pollution Prevention Program*, implements the regulatory mandates in the Emergency Planning and Community Right-to Know Act, Pollution Prevention Act of 1990; EO 12856, Federal Acquisition, Recycling, and Waste Prevention; and EO 12902, Energy Efficiency and Water Conservation at Federal Facilities. Various plans prescribe management actions including a waste-reduction program; the NPDES permit program, and spill prevention control and countermeasures.

Asbestos and Lead Base Paint Containing Materials. AFI 32-1052, Facilities Asbestos management provides direction for asbestos management at USAF installations. Various policies and regulations including the Residential lead-base paint hazard Reduction Act of 1992 provide direction on management of lead base paints and materials containing lead base paint. Procedures are in place to test and abate on all proposed project sites where these materials are suspected.

3.10 Safety and Occupational Health

All applicable standards, such as those required by the Occupational Safety and Health Act (OSHA) are strictly followed at FAFB. Base personnel are regularly briefed on hazards and safety concerns existing in their particular workplace. All contractors performing construction activities are responsible for following ground safety and OSHA regulations. Industrial hygiene programs monitor human exposure to hazardous materials and safety equipment and procedures are continually inspected.

There are several areas at FAFB that are constrained by explosive clear zones. These zones are associated with the Alert Area, Explosive Combat Aircraft parking, and the Munitions Storage Area. Transportation routes for explosives also are present in the area using Gate 23 Road.

Range sites on FAFB contain various munitions, unexploded ordnance (UXO), and Chemical Agent Identification Sets (CAIS). Surface disposal sites have been removed. However, munitions, UXO, and CAIS still can be found below the ground surface near and adjacent to range sites.

The proposed project area is south of the Old Skeet Range, a small arms range, and to the east of a historic Target Butt 20mm caliber boresite range. All ranges are considered to be a distance away from the proposed site. Only incidental stray bullets may be found in the proposed area for Alternative 1. The range for ammunition used at the skeet range is about 700 feet and the direction of firing was to the north and east of the proposed project location. No firing points or target areas were located at the Target Butt site during a 2006 site reconnaissance conducted by Contract W9128F-04-D-0001-0038 (URS 2006). Both areas are thought not to have unexploded ordnances remaining (URS 2006). Thus, the potential hazard is minimal for lead exposure and none for UXO for the project area. Standard procedure when munitions are expected is for monitoring during construction and to implement mitigation as needed.

Potential hazard exists associated with jet blast near runway and parking facilities of aircraft. Based upon idle thrust requirements of KC135 aircraft, safe distance for operations is 400 feet away from the aircraft (based on UFC 3-260-01 and ETL 1110-3-394). Worse case estimates for larger aircraft requirements based upon take-off thrust are calculated at 900 feet.

3.11 Environmental Management (Environmental Restoration Program)

The purpose of the Air Force Environmental Restoration Program (ERP) is to identify, characterize, and evaluate past disposal sites and remediate contamination on its installations as needed to control migration of contaminants and potential hazards to ecological resources, human health, and the environment in accordance with CERCLA requirements. A total of 37 ERP sites are present at Fairchild AFB. ERP site SS-39, a TCE plume, underlies much of the runway area and to the north toward military housing. However, there appears to be a geologic “dam” that keeps flow from moving eastward toward the area of influence of the

proposed project. This plume is located 40-50 feet below the ground surface. Fairchild AFB requires specific procedures be followed if contaminated soil is discovered during excavation.

No contamination of groundwater or soils has been identified directly below the area proposed in Alternative 1. Renovation to existing facilities in Alternative 2 may encounter or overlay an identified ERP site. ERP sites have been identified and most have been remediated. Processes are well in place to survey, abate, and protect from exposure to humans or further exposure to the environment if contamination is encountered.

3.12 Socioeconomics

Socioeconomics are defined as the basic attributes and resources associated with the human environment, particularly population and economic activity. Federal Actions to "Address Environmental Justice in Minority Populations and Low-Income Populations" directs Federal agencies to address environmental and human health conditions in minority and low-income communities. The general purposes of this Executive Order are:

- To focus attention of Federal agencies on the human health and environmental conditions in minority communities and low-income communities with the goal of achieving environmental justice;
- To foster non-discrimination in Federal programs that substantially affect human health or the environment; and
- To give minority communities and low-income communities greater opportunities for public participation in and access to public information on matters relating to human health and the environment.

Described below are two categories, social and economic condition and environmental justice.

Social and Economic Condition. FAFB is approximately 12 miles west of Spokane, Washington, in Spokane County. Population of Spokane County in 2000 was 417,939 (U.S. Census Bureau 2000). Between 1990 and 2000, Washington's population increased by 21 percent. In the same period of time, Spokane grew by 16 percent. The top industry is education, healthcare, and social services. Pubic administration is the second highest area of industry, regionally. And as would be expected, there is a larger portion of the population in the Spokane area employed by the Armed Forces compared with the State.

In 2000, the unemployment rate for the region was 4.6 percent which was slightly higher than for the State at 4.1 percent. The region has a lower median household income and per capita income and a higher percentage of individuals below the poverty threshold than for the State. Education level is slightly higher for the region than for the state average.

FAFB is the largest employer in the Inland Northwest and employs approximately 5,400 military and civilian employees. The annual payroll of FAFB is approximately $203 million and it is estimated that FAFB indirectly creates an additional 2,150 jobs and $82 million in payroll from support jobs throughout the community.

Environmental Justice. The following was indicated following as a result of the 2000 Census. Areas within and nearest FAFB have the highest population of African Americans than for the Spokane area or the State. The area southeast of FAFB had the highest percentage of individuals below the poverty level and the lowest per capita income.

Chapter 4: Environmental Consequences

4.1 Introduction

This section describes the anticipated environmental consequences or impacts that could result from implementing the proposed actions. The significance of an action is analyzed in several contexts including several scales as needed, short term and long term impacts, direct and indirect impacts, and cumulative impacts.

4.2 Air Quality and Noise

The environmental consequences to local and regional air quality conditions as a result of the proposed action is determined based upon the increases in regulated pollutant emissions relative to existing conditions and ambient air quality. A significant impact would be found if the action led to one or more of the following: 1) cause or contribute to a violation; 2) expose sensitive receptors to increased pollutant concentrations; 3) represent an increase of 10 percent or more of an affected emissions inventory; or 4) delay attainment or exceed any evaluation criteria established by a state implementation plan.

Noise impact analysis typically evaluates potential changes to the existing noise environment that would result from implementation of a proposed action. Potential changes in the noise environment can be beneficial or adverse.

4.2.1 Alternative 1 – Preferred

Regulated pollutant emissions from the proposed action would not contribute to or affect local or regional attainment status. The proposed action would temporarily result in a slight increase in air pollutant levels in the vicinity during construction activities. Off-site and on-site effects from dust would be abated through dust control measures during construction such as the use of tackifiers and watering of bare soil areas. Fugitive dust situations would be rare and readily dissipated by the westerly flow of winds normal for the area during the construction season. The proposed action has a no net increase in commuter and personal vehicular emissions regionally. Traffic would be redirected to FAFB in lieu of locations near downtown Spokane where existing Army Reserve and Washington Army National Guard units are located presently.

Calculations for cumulative impacts on a five year construction program at FAFB result in a finding of far less than the increase of ten percent emissions in the affected emissions inventory for FAFB. A worse case scenario model suggests that impacts on dust and other emissions would be far below a significant level. (e2m 2006). This five year program is far more substantial than the AFRC project.

It can be concluded that construction and operations of a new AFRC facility would not have adverse impacts to air quality.

A short term impact to the noise environment would occur during construction from heavy equipment. An increase in vehicular noise in the immediate area would occur as a result of the new land use associated with Armed Forces equipment, maintenance, and training operations. This noise is not expected to be different than noise already occurring at FAFB associated with industrial and maintenance activities. Ambient noise levels are not expected to increase over existing levels. More vehicular traffic would use Gate 23 road as personnel commute to work at the Armed Forces Reserve Center. Noise levels at certain times of the day may increase in the area where industrial and administrative activities already exist. No long term impact to health or quality of life from noise is anticipated with this action.

4.2.2 Alternative 2

No net increase of pollutant emissions would result from this alternative. Some demolition and renovation of existing structures may result in temporary increases in dust emissions. The emissions are expected to be less than Alternative 1 due to less ground disturbance required by this Alternative.

A short term impact from noise during renovations of existing facilities may occur in the immediate area. Quality of work environment may be impacted temporarily. Increase in vehicular traffic would be dispersed on FAFB and no appreciable difference in associated noise levels is expected. No long term impact to health or quality of life is anticipated with this action.

4.2.3 No Action Alternative

The No Action alternative would result in unchanged conditions at FAFB. The base would continue to operate in compliance with all permits, with minimal impact to air quality.

4.3 Water Resources

Evaluation criteria for impacts on water resources are based on water availability, water quality, and impacts to beneficial uses. Standards are established by federal and state law.

4.3.1 Alternative 1 - Preferred

Surface Water Quality: Storm water runoff from construction activities would disperse and infiltrate into open fields adjacent to the project site. Runoff from stockpiles would be contained to control the amount of storm water sediment released during construction as designated by the project Storm Water Pollution Prevention Plan. After construction, parking areas are paved and runoff would flow through a catchment system to storm water ponds where sediments would filter out of storm water before being released to an adjacent agricultural field. There are no surface watercourses that connect to streams or waters of the State flowing from FAFB or specifically, the project site. No short term or long term, direct impacts would occur as a result of the proposed action.

Water Availability. Water is supplied by wells located along the Spokane River and pumped to FAFB. Water availability from these wells is expected to be adequate for the additional demand of personnel and the additional mission activities. FAFB has been undergoing a water conservation effort and has realized a decrease from 6 million gallons to 4 million gallons in the last several years. This decrease suggests that there is at least a 2 million gallon surplus capacity which is ample supply for the additional operational requirements of the Armed Forces Reserve Center (or AFRC).

Groundwater. The proposed action would likely have no effect on area aquifers. Although FAFB does have a well in the area aquifer, the main supply of water comes from the Hangman aquifer upstream from the Spokane River. The West Plains well is only used as an emergency supply. The previous section demonstrated that the wells along the Spokane River have adequate capacity to supply the Bases needs. Increases in groundwater recharge associated with increased impervious surfaces would be expected to be minor or cause a slight elevation seasonally. Water quality should not be affected adversely as storm water flow is filtered through soil material prior to reaching the water table. And, required for all vehicular maintenance activities are oil-water separator treatment facilities.

Wetlands. There are no wetlands within or adjacent to the project area.

During construction of the facility, there is a higher potential for water contamination. To minimize this risk, the contractor would be required to prepare and implement a Storm Water Pollution Prevention Plan prior to construction. This plan would require approval from the Environmental Flight, to ensure compliance with appropriate regulations. Such a plan requires the use of best management practices to protect water quality. When the above stipulations are met, there should be no significant water quality impacts during construction.

4.3.2 Alternative 2

There should be insignificant and immeasurable change or effect to water resources as a result of this Alternative. Alternative 2 does not increase impervious surfaces or add additional storm water connection to the existing system.

4.3.3 No-Action Alternative

The water quality and availability environment would remain the same as baseline conditions. There would be no potential for water quality impacts during construction, since no such activity would occur. FAFB would continue to comply with local, state, and federal regulations.

4.4 Geologic Resources

4.4.1 Alternative 1 - Preferred

The proposed action would result in considerable ground disturbance. Potential impacts would be mitigated by use of best management practices including weed control and revegetation. All construction activities are guided by Base Construction Standards which include environmental protection standards. The general area is flat lying which minimizes hazard and increases potential for compliance.

Earthwork would be planned and conducted in a manner to minimize duration of exposure of unprotected soils. Work would be conducted in accordance with best management practices for erosion control, as outlined by the Storm Water Pollution Prevention Plan for the proposed project. Landscaping of exposed surfaces following completion of construction would minimize the potential for erosion. For these reasons, no significant geologic, physiographic, or soil impacts are anticipated as a result of the proposed activities.

A positive effect is anticipated in weed control. An area inundated by noxious weeds would be converted to hard infrastructure and irrigated landscape reducing the amount of area contributing to weed seed dispersal by thirty acres.

4.4.2 Alternative 2

Alternative 2 proposes no ground disturbance but renovation to existing infrastructure and relocation of personnel. This action results in a no net change in existing geologic resources.

4.4.3 No-Action Alternative

The No Action alternative results in no change in existing geologic resources.

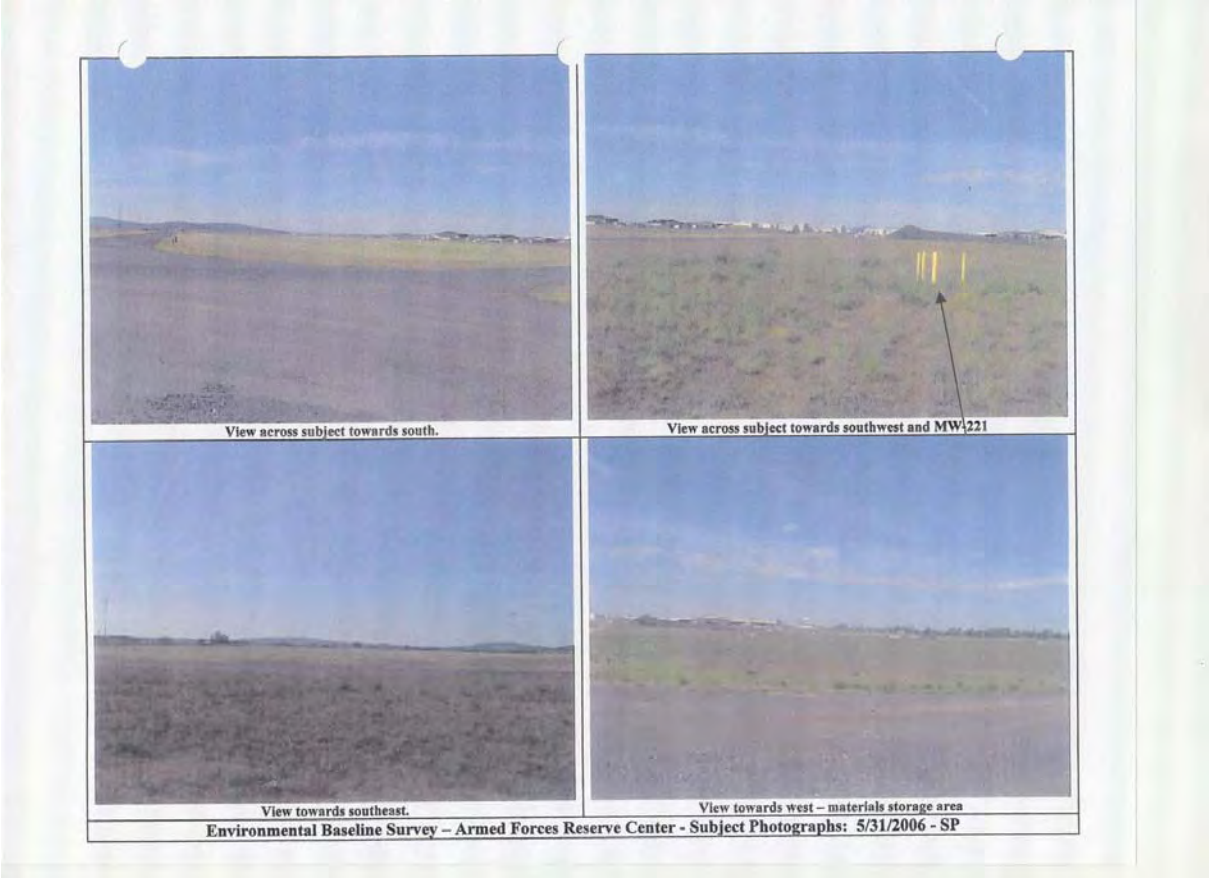
4.5 Biological Resources

4.5.1 Alternative 1 - Preferred

The proposed action would result in the loss of approximately 30 acres of unimproved, dry grassland and open space. The pictures below in Figure 4 where taken of the existing site in July 2006. The existing quality of the habitat is fair to poor. Some forage of small

mammals and birds occurs in the area currently. The area is kept in a mowed condition to discourage birds from foraging in the area to reduce the safety hazard to aircraft and their crews. There is over 700 acres of higher quality, unimproved lands with approximately 200 acres of wetlands in the southern portion of the Base for wildlife to displace to from the proposed area. There are no federally or state listed species occurring in the project area. There are no known nest sites of protected species within the region of influence of construction noise. A positive net gain would occur by remediation of noxious weeds in the immediate area and reduction of seed dispersal from the area. Therefore, no significant adverse effects to wildlife or vegetation are anticipated as a result of the proposed action.

Figure 4. Setting for Proposed Location – Alternative 1



4.5.2 Alternative 2

Alternative 2 proposes no ground disturbance but renovation to existing infrastructure and relocation of personnel. The location would be in industrial and administrative areas already existing. In contrast with Alternative 1, most biological resources are in irrigated landscaping and urban community parks and include mostly small bird species that thrive

in those settings. This alternative results in a no net change in existing biological resources.

Under this alternative there would be no loss of unimproved grassland that provides foraging opportunities for bird and small mammals. No change would occur from the existing situation.

4.5.3 No-Action Alternative

The No Action alternative results in no change in existing biologic resources.

4.6 Cultural Resources

Impacts on cultural resources are addressed under Section 106 of the National Historic Preservation Act and 36 CFR 800. Adverse impacts on cultural resources might include physical alteration, damage, or destruction of all or part of a resource; alteration of characteristics of the surrounding environment that contribute to the resource's significance; introduction of visual or audible elements that are out of character with the property or that alter its setting; neglect of the resource to the extent that it deteriorates or is destroyed; or the sale, or transfer, or lease of the property out of agency ownership without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance.

4.6.1 Alternative 1 - Preferred

No National Register of Historic Places (NRHP) eligible archaeological resources have been documented within or near the region of influence of the proposed project. According to the FAFB Integrated Cultural Resources Management Plan (ICRMP), the probability is low that undisturbed, significant archaeological resources, including human graves, would be discovered during future construction. The ICRMP sets forth standard procedures that must be followed in the event any type of archaeological site is discovered during the course of earth-disturbing activity on base. The proposed action is not expected to result in any effects to archaeological resources on FAFB.

No NRHP-eligible historic resources are located within the region of influence of the proposed structure. The proposed action would not result in the demolition or alteration of any historic properties or structures. There would be no potential impacts to historic structures.

There are no documented sites or areas of known cultural importance to local Native American tribes at FAFB. Potential is low for discovery of such sites. The proposed action r be implemented in accordance with the Fairchild AFB ICRMP, which specifies

notification procedures applicable to Native American groups. The proposed action is not anticipated to impact Native American concerns.

4.6.2 Alternative 2

Alternative 2 assimilates the WAARNG and Army Reserve mission into existing buildings. No NRHP eligible historic buildings or resources would be associated with relocation of the WAARNG and Army Reserve. Renovation would take place in older buildings used for similar purposes and have already been significantly altered. No earth moving is required with this alternative and carries no risk in disturbing buried historic resources.

4.6.3 No-Action Alternative

There would be no potential effects relating to cultural resources if the no-action alternative is chosen. No earth-moving would be completed; therefore, no unknown cultural resources could potentially be discovered. FAFB would continue to be managed as outlined in the ICRMP.

4.7 Infrastructure and Utilities

Effects on infrastructure are evaluated based on their potential for disruption or improvement of existing levels of service and additional needs for energy and water consumption, sanitary sewer and wastewater systems, and transportation patterns and circulation. An effect might be considered adverse if a proposed action exceeds capacity of the infrastructure or utility or disrupts service or operations.

4.7.1 Alternative 1 - Preferred

The proposed action constructs 80,900 square feet of administrative space and 58,600 square feet of storage and maintenance shop space. There would be approximately 78,500 square yards of parking and 9,600 square feet of unheated covered storage/parking. Over 800 - 1000 personnel would be relocated to the Armed Forces Reserve Center. Soldier units are divided among 3 drill weekends typically and it is projected that no more than 400 personnel would be in place on any given weekend. A smaller core of personnel would be in place on a continual basis. High use days are weekends when FAFB personnel are at a minimum. This new compound would tie into existing utilities such as communications, water, sanitary sewer, IT, and storm water. Existing services such as solid waste and hazardous waste management would be used by AFRC.

Sanitary Sewer: An upgrade and lining of the sanitary sewer system by 2007 would decrease substantial amounts of groundwater infiltration which would increase the amount of available volume capacity of the system. It is likely that this infiltration is far more significant in volume than the increase by the AFRC. Highest use days are on weekends

when other FAFB personnel are not present. During the temporary transfer of Grand Forks operations to FAFB, May 2005 to November 2005 flow increased from 400,000 gallons/day to a maximum of 750,000 gallons/day without adverse effects (Luders 2006). These operations transferred 425 personnel on a full time basis during weekdays. This comparison far exceeds the expected impact from the AFRC due to the pattern of use being primarily on the weekends.

Transportation Network. Once in operation, the AFRC would result in a substantial increase in commuter traffic to and through FAFB during scheduled drills. Congestion may not be experienced since the majority of personnel would be commuting on weekends not business days. Traffic would be concentrated at the north end of FAFB only. The weekly core personnel traffic may result in a larger traffic flow on Hansell Road and Gate 23 Road. Gate 23 Road and Hansell Road is currently mostly used for commercial traffic entering from the Rambo Gate and personnel commuting to the south side of the Base. The current traffic use is not at capacity and this increase in traffic would not bring these roads to capacity.

Siting of the AFRC in the proposed location (Figure 1) requires removal of a portion of Gate 23 Road which is currently primary access from Rambo Gate Road to the Main Base and is the operational route for materials supporting military operations. A new route will be constructed to the north of the AFRC which will connect to the existing Sports Range Road and back to existing Gate 23 Road. There is no effective change in distance to travel. Siting of the AFRC in this location does expose personnel present at the compound to traffic and materials transported using this new route. The highest use of the AFRC is one or two weekends a month with a permanent daily staff of no more than 30 personnel. This impact is no different than for other industrial facilities on Base.

Water. There would be an increase in use of water for irrigation of additional landscaping at the new facility and increase in human consumption due to the increase in number of personnel on Base. Landscape design standards call for reduced use of high water demand plantings. Capacity of FAFB water system should meet this increase in demand adequately. (See water resources discussion). There is no net increase for the Spokane area as the facility is relocating from within the area to FAFB.

Solid Waste. There would be an increase in solid waste on FAFB from this new facility. These increases would be assimilated through the existing disposal management without impact to existing services. There is no net increase for the Spokane area as the facility is relocating from within the area to FAFB.

Other Utilities. The facilities would tie into existing electrical, communications, and natural gas utilities. Since the largest influx of personnel is on weekend, demand should not impact capacity. There would be an increase in demand on weekdays to support the core personnel and their work needs at the facility.

Building Infrastructure. Construction of new building infrastructure greatly increases efficiency and mission effectiveness for the combined Armed Forces. New designs can accommodate the joint missions better than renovating and retrofitting older buildings.

The BRAC analysis suggests that consolidation of reserve units in the Spokane area, vacating old facilities, and construction of a new facility was a cost savings in a large defense context.

4.7.2 Alternative 2

Alternative 2 assimilates administrative space, storage, maintenance shop space, and parking into the existing infrastructure. Some areas would be renovated and others shared with other users.

Sanitary Sewer*:* Much of the discussion for Alternative 1 applies to Alternative 2. An upgrade and lining of the sanitary sewer system will decrease substantial amounts of groundwater infiltration which would increase the amount of available volume capacity of the system. It is likely that this infiltration is far more significant in volume than the increase by the AFRC. Highest use days are on weekends when other FAFB personnel are not present. The net increase is inconsequential and the pattern of use would more fully utilize the existing capacity. Use of this utility would be more concentrated in an existing developed infrastructure central to the Base. Some of the infrastructure is old and may need updating to manage increase demand flows.

Transportation Network. Once in operation, the AFRC would result in a substantial increase in commuter traffic to and through FAFB on exercise weekends and weeks. The largest traffic increases are on days when other FAFB personnel are absent. Although traffic would be routed through the core of FAFB, real congestion may not be experienced due to when the highest volume of traffic occurs.

There would be no requirement to reroute Gate 23 Road constructing a new access road to the north of its present location. There would be no change in current use of the transportation network for military operations.

Water. There would not be an increase in use of water for landscape irrigation as no new landscaping is needed in this Alternative. Increases would occur in human uses over existing**.** Capacity of FAFB water system should meet this increase in demand adequately. There is no net increase for the Spokane area as the facility is relocating from within the area to FAFB.

Solid Waste. There would be an increase in solid waste on FAFB as similar to Alternative 1. Solid waste generated would require use of existing disposal areas or new ones created to handle the additional volume. Increases would be assimilated through the existing disposal management without impact to existing services. There is no net increase for the Spokane area as the facility is relocating from within the area to FAFB.

Other Utilities. No additional tie in to existing electrical, communications, and natural gas utilities is required. Since the largest influx of personnel is on weekend, demand should not impact capacity. There would be an increase in demand on weekdays to support the core personnel and their work needs at the facility.

Building Infrastructure. Use of existing building infrastructure would require sharing of some areas with existing users, relocation and consolidation of other users, and renovations to accommodate AFRC mission needs. Sharing, relocation and consolidation of existing users would create work inefficiencies and a loss of quality of work environment. Maintaining security of equipment with sharing of work spaces would be difficult. This alternative may exceed the capacity of existing infrastructure to provide adequate work space for personnel. Consolidation, although cost efficient, may conflict or degrade services to the mission.

4.7.3 No-Action Alternative

All FAFB infrastructure conditions would remain the same as existing.

4.8 Land Use

The significance of potential land use impacts is based on the level of land resource sensitivity and compatibility with the proposed action. In general, a land use impact would be significant if it were to be inconsistent or in noncompliance with existing land use or stewardship plans or policies, preclude the viability of existing land use, or conflict with planning criteria established to ensure the safety and protection of human life and property.

4.8.1 Alternative 1 - Preferred

About thirty acres would be converted from semi-improved, open space land use to developed, administration and industrial use. Adjacent land use would remain semi-improved, open space to the north, east, and west. To the south, the land use is airfield and industrial. The change of use in the thirty acres serves to extend in a northeastern direction the large area of airfield and industrial land use. This change is compatible with land use policies and keeps large blocks of the same use in the same area.

The location of the proposed facility has been sited in accordance with FAFB General Plan (92ARW 2005).

The proposed location is near the north end of the runway and near a designated QD explosive arc zone. The original location was closer to these areas and moved to the present proposed location to reduce the safety hazard. The compound is designed with parking and storage areas at the nearest end to these areas of hazard.

The proposed use displaces an informal area where rock materials have been stored. There is adequate area within the remaining open space for materials to be stored.

4.8.2 Alternative 2

Alternative 2 assimilates use within the existing infrastructure and land use. Some changes in existing land use from administrative to industrial may be required to accommodate the area needed for shop space. This change is compatible with land use policies and keeps large blocks of the same use in the same area. The location of the proposed facility has been sited in accordance with the General Plan (92ARW 2005).

Increased safety hazard may exist with consolidating and sharing uses with existing uses. Personnel would need to learn new procedures and policies to accommodate this change.

4.8.3 No-Action Alternative

No action would result in any changes to current land use.

4.9 Wastes, Pollution Prevention, Hazardous Materials and Environmental Restoration Program

Impacts on hazardous materials and waste management would be considered significant if the proposed action resulted in noncompliance with applicable Federal and state regulations, or increased the amounts generated or procured beyond FAFB capacity to obtain permits or for disposal or the action exposed humans or the environment to adverse impact from contaminated ERP sites.

4.9.1 Alternative 1 - Preferred

***Hazardous Materials and Waste and Pollution Prevention*.** The proposed action would require procurement and disposal of hazardous materials such as oils, fuel, paints, and solvents. Some construction materials may contain hazardous materials although it is anticipated that the amount of these materials are minimal during construction and use is temporary.

AFRC as other FAFB tenants would be required to follow all FAFB and Air Force environment management policies governing the procurement, use, and disposal of hazardous materials. These polices are in place to safeguard the public, personnel, and the environment.

Asbestos Containing Materials(ACM) and Lead-Based Paint(LBP). Specifications for the proposed construction and Air Force regulations prohibit the use of ACM and LBP for new construction. New facilities at AFRC would not contain these materials.

Environmental Restoration Program. There are no ERP sites identified within the thirty acres planned for construction of the proposed action. With all sites on military bases, contractors must prepare a health and safety plan to identify potential hazards. Base construction standards also require contractors to stop work and request an investigation if suspicious materials are uncovered. The only hazard identified is the potential for unspent

small arms munitions in soils may be a source of lead. The amounts are thought to be very small and not a significant health or safety hazard.

During construction of the facility, there is a slight chance that a hazardous materials spill could occur. As a precautionary measure, the construction contractor would be trained to take immediate action to contain any spill. The contractor would then be required to contact the Environmental Flight. The contractor would be held liable for the cleanup of any spill that may occur, in accordance with applicable regulations.

4.9.2 Alternative 2

Hazardous Materials and Waste and Pollution Prevention. Alternative 2 would require procurement and disposal of hazardous materials such as oils, fuel, paints, and solvents. Some construction materials may contain hazardous materials although it is anticipated that the amount of these materials are minimal during construction and use is temporary.

AFRC as other FAFB tenants would be required to follow all FAFB and Air Force environment management policies governing the procurement, use, and disposal of hazardous materials. These polices are in place to safeguard the public, personnel, and the environment.

Asbestos Containing Materials (ACM) and Lead-Based Paint(LBP). Renovations and relocations would be conducted in buildings with known and unknown locations of ACM and LBP. Surveys and abatement would be required to control human exposure and reduce health risks.

Environmental Restoration Program. This alternative uses existing facilities where containment and mitigation has occurred. This alternative poses no significant hazard.

4.9.3 No-Action Alternative

It is anticipated that the volume of hazardous materials purchased and hazardous wastes generated would continue at current levels. Existing management procedures would continue to be followed.

4.10 Safety and Occupational Health

4.10.1 Alternative 1 - Preferred

There are no major safety and occupational health consequences related to the proposed action. Construction contractors are trained so that work would be performed in accordance with safety and occupational health standards, such as those required by the Occupational Safety and Health Act (OSHA). The contractor would be required to submit a site specific safety and health plan, as described in the Army Corps of Engineers Manual 385-1-1, *Safety and Health Requirements.*

Consolidation of functions between reserve units and operations in new, state-of-the-art facilities optimizes the opportunity to provide a safe working environment.

The AFRC compound is sited 400 feet away from the nearest source of potential jet blast. In addition, design of the new AFRC compound has been aligned to move administrative and training areas with the most concentrated use by personnel to the most northerly portion of the compound. Equipment storage, parking, and maintenance shops are located in the southern portion of the compound. This design reduces the potential safety hazard posed by jet blast. Unresolved is the worst case scenario of the potential 900 foot requirement of jet blast from larger aircraft. This scenario would be only in the event of emergency exercise. These scenarios nor the actual requirement is not known at the time of the writing of this EA. Suitable mitigation exists for this scenario and will be executed if found necessary as further information is available. This mitigation is to construct physical blast protection barriers between the "Christmas Tree" aircraft parking area and AFRC and to reconstruct the pavement of the aircraft parking area where necessary to increase resistance from impact of the blast and to reduce potential for flying debris. Another possible administrative mitigation is to designate a new Parking Space Six moving it inward to increase distance away from the AFRC. This mitigation is less desirable as it reduces operational flexibility. With these mitigations, potential hazard from jet blast is minimized to an acceptable level.

4.10.2 Alternative 2

Sharing and consolidation of resources within existing infrastructure presents unknown safety challenges. Operations would be conducted in older facilities with less opportunity to optimize efficiency and safety. Consolidation and relocation may require operations to be conducted in closer, smaller less efficient spaces which may increase worker stress and present more potential for unsafe situations.

4.10.3 No-Action Alternative

No change occurs in the existing work environment for either FAFB personnel or Armed Forces personnel.

4.11 Indirect and Cumulative Impacts

Cumulative impacts are the incremental effects of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Actions may be direct or indirect. The degree and kind of impact may be different depending on the length of time the impact occurs or the extent of area the impact is exhibited; in other words, time and space. Generally, assessing impacts to water resources require assessment of several geographic scales and often long spans of time. In contrast, impacts to infrastructure can be observed within a short time frame and over a smaller geographic area.

4.11.1 Alternative 1 - Preferred

Construction of the new AFRC facility would displace potential but unforeseen other land uses for the area. The FAFB General Plan was developed to minimize adverse impacts to future land use decisions. This proposed action is in compliance with the vision of the FAFB General Plan for the area.

Storm water management is a challenge in portions of FAFB and in the Airway Heights area, in general; particularly with increasing development. In Chapter 4, the direct effects of developing a thirty acres facility with increases in impervious surfaces were found to be not significant due to planned connections to the storm water conveyance and treatment system and from overland flow onto local geologic characteristics that dissipate runoff rapidly. The actual area of impervious surfaces constructed for the AFRC is about 6 acres. Currently there is over 100 acres of undeveloped, pervious surface in the general area which buffers the effects of the project. But further increases in impervious surfaces have the potential to cumulatively reduce the natural dissipation rate of storm water in the area and have a potential adverse impact. A potential addition to military housing is planned along FAFB's north boundary that if constructed, may increase impervious surfaces over an additional 20 acres. Soil and groundwater characteristics are similar to the AFRC location and it is expected to be designed with similar storm water management. No further development is planned for the area. This action should not significantly or cumulatively impact groundwater or storm water management in the future.

Open space would be reduced by thirty acres and with the planned additional housing, a total of 50 acres. This represents a reduction of 50% of the open space currently in the area. The area has been used for military exercises and is kept mowed to deter bird foraging that can present a safety hazard to aircraft. Currently the value of open space to wildlife is fair to poor. The greatest effect is the reduction of area for military exercises as existing quality of wildlife habitat is already reduced. Military exercises may be displaced to other locations containing higher valued wildlife habitat. This would represent an indirect effect if it were to occur. The degree of effect is unforeseeable at this time.

Increases in use of infrastructure, utilities, services, and other resources would be accommodated within the existing framework of policies and regulations and asset capacity without significant impact. FAFB General Plan (92ARW 2005) identifies capacity to expand and assimilate new operations.

4.11.2 Alternative 2

Indirect effects may occur with Alternative 2 resulting from relocation of existing operations in order to assimilate AFRC operations. These effects may result in reduced quality of work environment, require a higher degree of vigilance to reduce unsafe conditions and security risk, and reduced productivity. The degree of these effects is difficult to foresee and would be minimized as much as possible by coordination and planning efforts prior to the move.

No indirect effects or cumulative effects are anticipated with Alternative 2.

4.11.3 No Action Alternative

No change in the existing operations would result in status quo whereas no indirect or cumulative effects at FAFB would be realized. According to BRAC analysis, the savings from consolidation of AFRC and relocation to FAFB would not be realized. There would invariably be a cumulative economic effect for every year the BRAC plan was not realized.

Chapter 5: List of Preparers

Prepared by: Ms. Joni L. Sasich
92 CES/CEV
100 W. Ent Street, Suite 155
Fairchild AFB, WA 99011
(509) 247-8207

Chapter 6: Persons Consulted and/or Provided Copies

Maj William Belser	92 ADS/SGGB	Fairchild AFB WA
Mr. Todd Bennatt	92 CES/CEVR	Fairchild AFB WA
MSgt. George Cannata	92 AMXS/MXA	Fairchild AFB WA
Capt. Denis Casaubon	92 ARW/SEF	Fairchild AFB WA
Mr. Marc Connally	92 CES/CEVR	Fairchild AFB WA
Mr. Gerald Johnson	92 CES/CEV	Fairchild AFB WA
MSgt Wm. Kowalski	92 ARW/SEW	Fairchild AFB WA
Mr. David Luders	92 CES/CEOE	Fairchild AFB WA
Capt. Sarah Mountin	92 ARW/JA	Fairchild AFB WA
Ms. Andrea Naccarato	Army Reserve Office	College Park, GA
Ms. Kristin Nester	92 CES/CEVC	Fairchild AFB WA
Ms. Julie Osburn	92 CES/CEC	Fairchild AFB WA
TSgt. Joe Pierce	92 ARW/SEF	Fairchild AFB WA
Major Leslie Picht	92 ARW/SE	Fairchild AFB WA
Mr. Rick Rosa	92 CES/CEVC	Fairchild AFB WA
Mr. Mark Rupert	92 ARW/SEG	Fairchild AFB WA
Capt Jason Sander	92 MXG/QA	Fairchild AFB WA
Mr. Will Worrall	92 CES/CEVN	Fairchild AFB WA

City of Spokane – Planning Services Department

City Hall
808 W. Spokane Falls Blvd.
Spokane Washington 99201-3329

City of Airway Heights – Planning Division

P.O. Box 969
Airway Heights WA 99001

References

92ARW 1999. Hazardous Materials Emergency response Plan and Community Right-To-Know Plan. Fairchild Air Force Base, WA

92 ARW 2005. General Plan for Fairchild Air Force Base, Fairchild Air Force Base, WA.

92 ARW 2003. Fairchild Air Force Base Hazardous Waste Management Plan. Fairchild Air Force base, WA.

92ARW 2003. Fairchild Air Force Base Lead Exposure and Lead-based paint Management Plan. Fairchild Air Force Base, WA.

92 CES/CEV 2000. Storm Water Pollution Prevention Plan for Fairchild Air Force Base. 92 CES/CEV Fairchild Air Force Base, WA.

92 CES/CEV 2005. Integrated Cultural Resources Management Plan. Fairchild Air Force Base, WA.

92 CES/CEV 2005. Integrated Natural Resources Management Plan. Fairchild Air Force Base, WA.

92 CES/CEV. 2005. Integrated Solid Waste Management Plan for Fairchild Air Force Base. Fairchild Air Force Base, WA.

92 CES/CEV 2005. Grand Forks AFB Temporary Move Environmental Analysis. Fairchild Air Force Base, WA.

e2m 2006. Draft Environmental Assessment of Installation Development (AICUZ) at Fairchild Air Force Base, Washington. HQ AMC, Scott air Force Base, IL.

FAFB 2001. Hazardous Material Management Plan. Fairchild Air Force Base, WA.

Luders,D. 2006. Summary graphs of Sanitary Sewer Discharge and Water Use. Fairchild AFB, WA.

Natural Resource and Conservation Service 2006. Fairchild Air Force Base Soil Survey. MLRA Soil Survey Office. Spokane Valley, WA.

URS 2006. Comprehensive Site Evaluation Phase I – Fairchild Air Force Base, Washington, Draft Report. U.S. army corps of Engineers Omaha District. Contract Number W9128F04-D-00001 Task Order 0038

U.S. Census Bureau 2000. "Quick Tables." Tables DP-1 from Summary File 1 and DP-2 and DP-3 from Summary File 3 for State of Washington; Spokane, Washington MSA; and Census Tracts 138,139,104.01, 104.02, and 141. Available online: http://factfinder.census.gov.

USAF 1995. Air Installation Compatible Use Zone (AICUZ) Study, Volumes 1 and 2. Fairchild Air Force Base, WA.

USEPA 2004. Green Book Nonattainment Areas for Criteria Pollutants. Available online: http://www.epa.gov/oar/oaqps/greenbk.

USEPA 2004. Spokane, Washington CO Attainment Plan. Available online: http:///yosemite.epa.gov/r10/airspace.nsf/283d45bd5bb068e68825650f0064dcd2

USEPA 2004. Spokane, Washington PM-10 Attainment Plan. Available online: http:///yosemite.epa.gov/r10/airspace.nsf/283d45bd5bb068e68825650f0064dcd2

Appendix B

Biological Evaluation

Biological Evaluation

Proposed Military Construction Project Deployable Medical System and Military Equipment Parking
Fairchild Air Force Base, Washington
October 2011

Project Description

The US Army Reserve (USAR) 88th Regional Support Command (RSC) proposes to acquire land (via permit) and construct a Deployable Medical System (DEPMEDS) and Military Equipment Parking (MEP) on approximately 17 acres of land at Fairchild Air Force Base (AFB) near Spokane, Washington (Figure 1). The proposed project would provide space for the DEPMEDS and parking for military equipment for the USAR, and the Washington Army National Guard (WAARNG) (Figure 2).

The DEPMEDS area would be gravel, while the MEP area for the USAR and WAARNG would be paved. The DEPMEDS area will include an 80-foot by 80-foot by about 30-feet high, pre-engineered, insulated metal building to be used as a multi-purpose, multi-user training building for USAR and WAARNG personnel. Spill control and secondary containment would be constructed for two WAARNG 2,500-gallon fuel trucks. The parking area would incorporate an onsite stormwater management system to address stormwater treatment and control run off. An earthen berm would be constructed along the northern and western/northwestern boundaries to visually screen this area from vehicular traffic on Eaker Road.

Purpose of the Biological Evaluation

The purpose of this Biological Evaluation (BE) is to provide the 88th RSC with site-specific information regarding the potential impacts of the project on federally-listed threatened or endangered species in compliance with Section 7 (a)(2) of the Endangered Species Act. This BE was prepared according to the US Fish and Wildlife Service (USFWS) requirements as outlined in Biological Assessment/Evaluation Development Guidelines (USFWS, 2007).

Project Area

The area evaluated encompasses approximately 17 acres of undeveloped land located at Fairchild AFB near Spokane, Washington, hereafter referred to as "the Property." The Property location is depicted on the attached Figure 1 and is approximately centered on the following coordinates: 47°37'54.15" North, 117°37'56.27" West. The Fairchild AFB airfield is located across the street southeast of the Property (Figure 1). Photographs of the Property are included in Appendix A.

Soils

Soils in the Spokane, Washington area are generally shallow overlying basalt bedrock (Fairchild AFB, 2006). The soils underlying the Property are Cheney and Uhlig silt loams, 0

to 8 percent slopes. The parent material of these soils is glaciofluvial deposits and alluvium mixed with loess and volcanic ash. The Cheney and Uhlig soils are classified as well drained. The typical soil profile types are silt loam at the surface to gravelly silt loam to extremely gravelly coarse sand at greater depths (Natural Resources Conservation Service, 2011).

Ecological Communities

On August 2, 2011, Laura Haught and Sara Kent, CH2M HILL biologists, conducted a meander survey to assess the ecological communities of the Property. The Property consists of a grassy field that is considered semi-improved and mowed four times a year. The site is treated twice a year with herbicides to control invasive pest plants: diffuse knapweed (*Centauria diffusa*), spotted knapweed (*Centauria stoebe*), and Canada thistle (*Ciricium arvense*). Vegetation on the Property consists of a mix of grasses and weeds including mountain brome (*Bromus marginatus*), saltgrass (*Distichlis spicata*), rush skeletonweed (*Chondrilla juncea*), diffuse knapweed, spotted knapweed, gumweeds (*Grindelia* spp), and Canada thistle.

Wildlife species observed in the open field included butterflies (Order Lepidoptera) and grasshoppers (Order Orthoptera). Burrow holes were also observed. The Fairchild AFB Natural Resources Manager indicated that these were likely badger burrows (Selser, 2011, personal communication).

Wetlands, Watersheds, and Surface Waters

The Property does not contain wetlands or other surface water features such as streams, rivers, or lakes. The wetlands on Fairchild AFB are located south of the airfield, well away from the Property.

Federally-Listed Species and Potential Adverse Effects

Listed and Candidate Species

The Fairchild AFB Integrated Natural Resources Management Plan lists two federally-threatened plant species as potentially occurring on the installation (92 CES/CEV, 2011). The federally-threatened plant species are shown in Table 1.

TABLE 1
Federal Endangered and Threatened Species for Fairchild AFB, Washington

Scientific Name	Common Name	Status
PLANT SPECIES		
Howellia aquatilis	Howellia	Threatened
Silene spaldingi	Spalding's Catchfly	Threatened

Howellia is an aquatic plant that occurs in small vernal freshwater wetlands (USFWS, 1996). Howellia has not been observed at Fairchild AFB (92 CES/CEV, 2011). There are no wetlands within the Property and no potentially suitable habitat for this species. It is highly unlikely that the Howellia would occur at the Property.

Spalding's catchfly occurs in native grasslands with a minor shrub component and scattered conifers (92 CES/CEV, 2011). Spalding's catchfly occurs on Fairchild AFB, south of the airfield but has not been observed elsewhere on Fairchild AFB during vegetation surveys (92 CES/CEV, 2011). The Property does not contain native grasslands with a minor shrub component and scattered conifer and Spalding's catchfly was not observed during the site visit. It is highly unlikely that Spalding's catchfly would occur on the Property.

Designated Critical Habitat

A review of the online USFWS critical habitat mapping in Washington indicated that no critical habitat is located in Spokane County (USFWS, 2011). Therefore, no critical habitat would be affected by construction of the parking area.

General and Species-Specific Protection Measures

General Protection Measures

Following are general environmental measures and best management practices (BMPs) that are common practice to USAR construction sites.

- Prior to construction activity, onsite construction personnel will be briefed regarding BMPs.
- The construction contractor will demarcate the project boundaries and keep these boundaries to the smallest area possible.
- Garbage/construction debris is to be managed so that it will not attract nuisance wildlife, and refuse will be removed from the Property or stored in appropriate containers until it is removed.
- Soil erosion and sediment control devices will be used and maintained throughout construction.

Species-Specific Protection Measures

No species-specific protection measures are planned at this time due to the lack of federal threatened and endangered species or potentially suitable habitat on the Property.

Conclusions

No impacts to federally-listed species are expected to occur during this project. No federally-listed species or potentially suitable habitats for protected species were identified on or in the vicinity of the Property. No federally-designated critical habitat for threatened or endangered species occurs on or in the vicinity of the Property. Based on the information contained in this BE, the USAR determines that this action will have **no effect** on federally-listed threatened, endangered, or candidate species or on any designated critical habitat.

References

Fairchild Air Force Base (AFB). 2006. Environmental Baseline Survey, Armed Forces Reserve Center, Fairchild Air Force Base, Washington. July.

92 CES/CEV, 2011. Integrated Natural Resources Management Plan. Official Draft, Fairchild Air Force Base, Washington. May.

Natural Resources Conservation Service. 2011. Online web soil survey. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed on July 21, 2011.

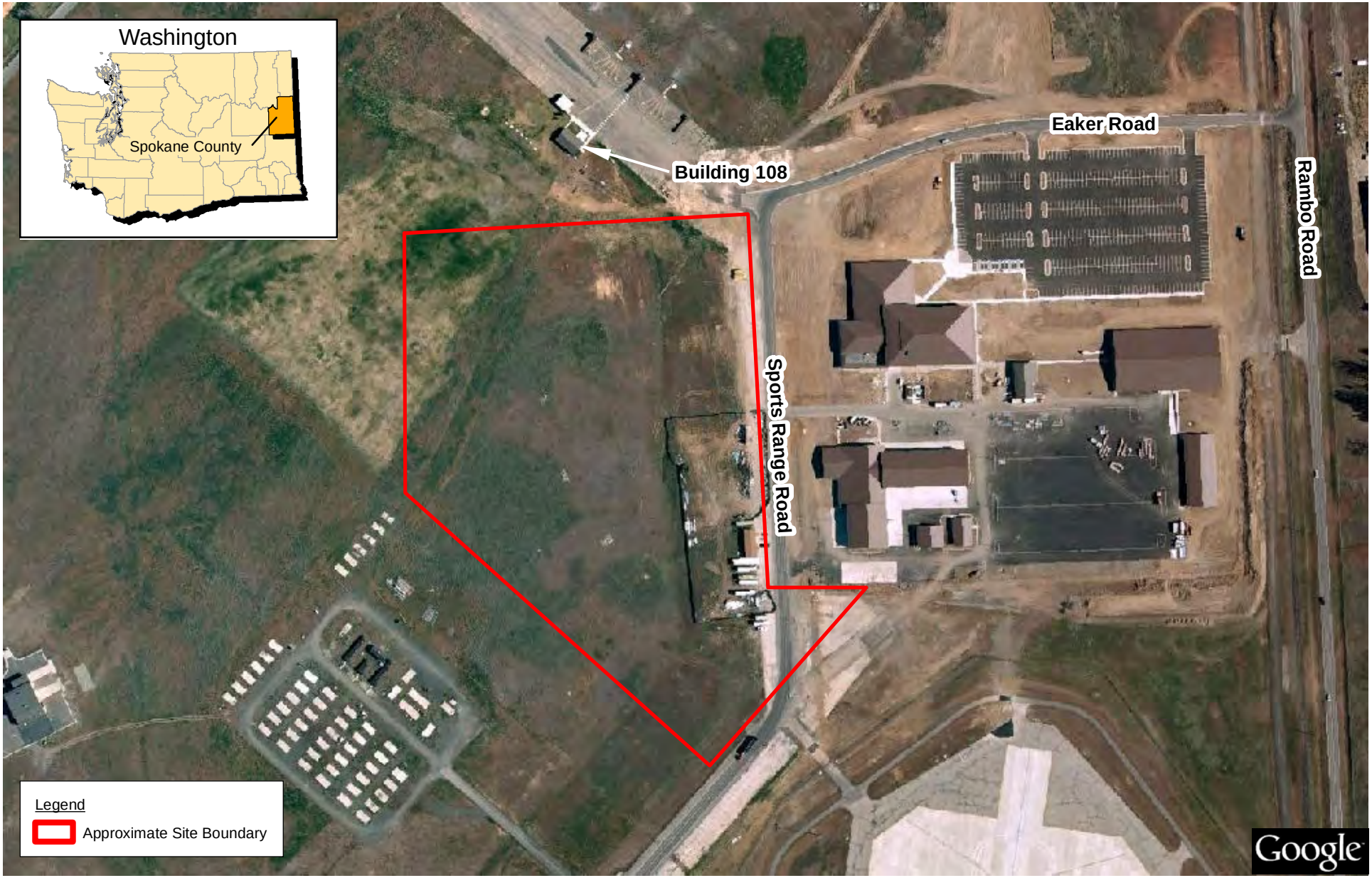
Selser, Steven/Fairchild AFB – Natural and Cultural Resources Manager. 2011. Personal Communication with Laura Haught/CH2M HILL. August 2, 2011.

US Fish and Wildlife Service (USFWS). 1996. Recovery Plan – Water Howellia. Draft. September.

US Fish and Wildlife Service (USFWS). 2007. Biological Assessment/Evaluation Development Guidelines. January.

US Fish and Wildlife Service (USFWS). 2011. Critical Habitat Mapping http://criticalhabitat.fws.gov/. Accessed on August 2, 2011.

Figures



N

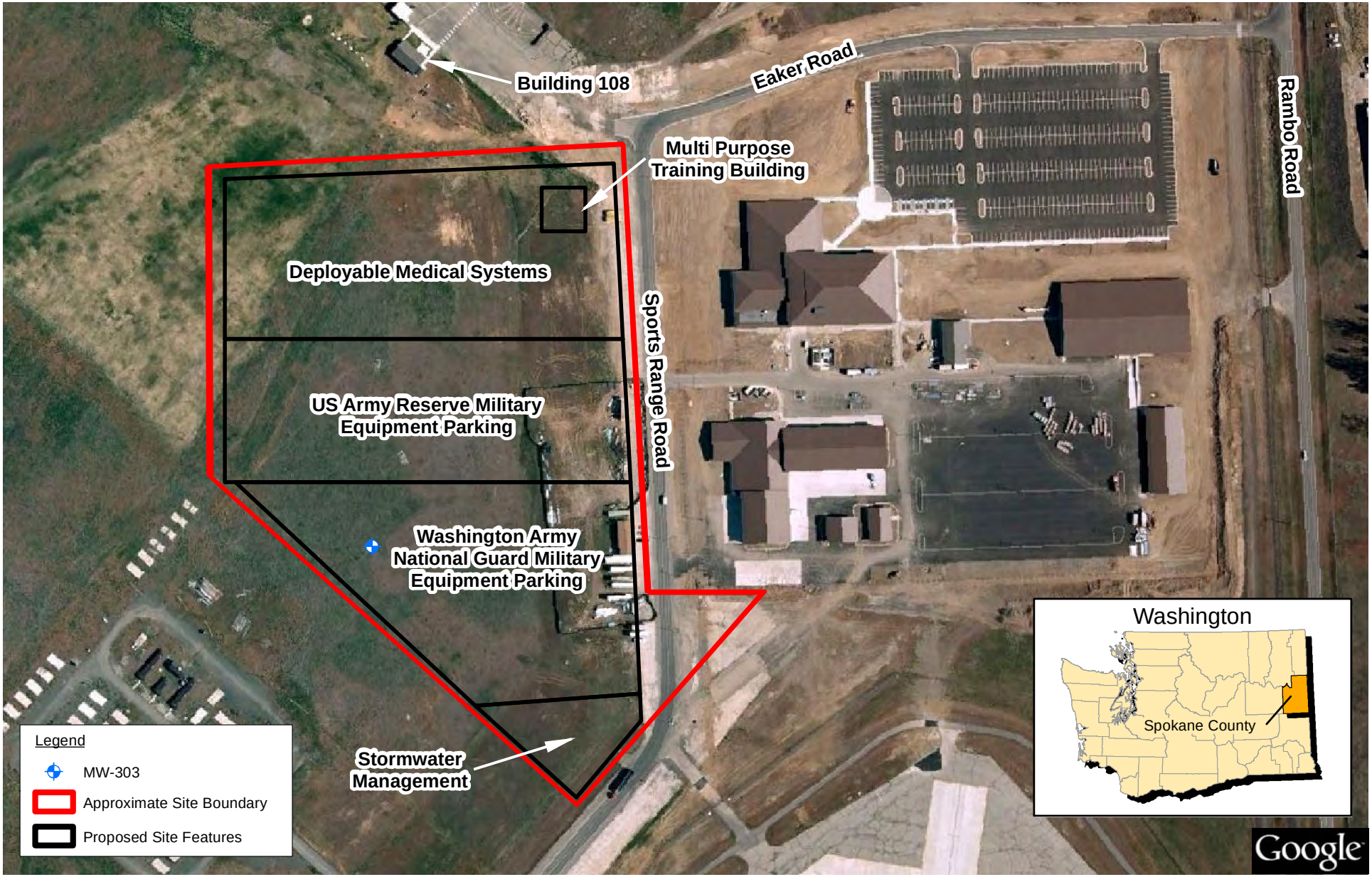
0 150 300

Approximate Scale in Feet

Note: Temporary construction trailers and equipment shown are no longer present on the Preferred Site.

FIGURE 1
Preferred Site Location
US Army Reserve
Proposed Military Construction Project
Fairchild AFB, WA

CH2MHILL



N

0 125 250

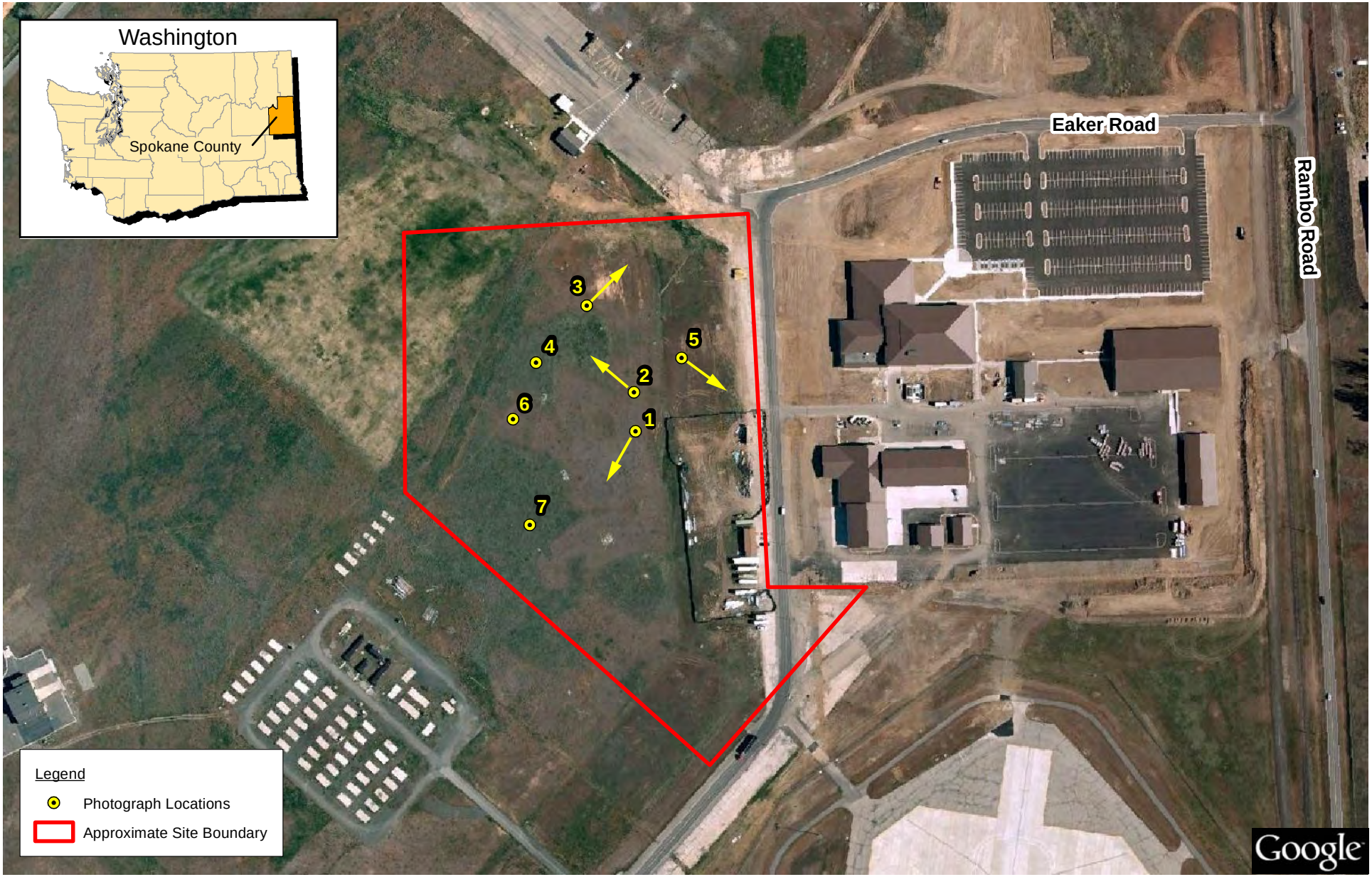
Approximate Scale in Feet

Note: Temporary construction trailers and equipment shown in Figure 2 are no longer present on the Preferred Site.

FIGURE 2
Proposed Layout (Approximate)
US Army Reserve
Proposed Military Construction Project
Fairchild AFB, WA

CH2MHILL

Appendix A
Photograph Log



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0 150 300

Approximate Scale in Feet

Preferred Site Photograph Locations
US Army Reserve
Proposed Military Construction Project
Fairchild AFB, WA

CH2MHILL

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PHOTO LOG

Project Name: Proposed Military Construction Project – Fairchild AFB, Washington	
Task: Biological Evaluation	Taken by: Sara Kent – August 2, 2011

Photograph 1

Property – facing southwest

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PHOTO LOG

Project Name: Proposed Military Construction Project – Fairchild AFB, Washington	
Task: Biological Evaluation	Taken by: Sara Kent – August 2, 2011

Photograph 2

Property – facing northwest

CH2MHILL

PHOTO LOG

Project Name: Proposed Military Construction Project – Fairchild AFB, Washington	
Task: Biological Evaluation	Taken by: Sara Kent – August 2, 2011

Photograph 3

Bare area with little soil over rock – facing northeast

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PHOTO LOG

Project Name: Proposed Military Construction Project – Fairchild AFB, Washington	
Task: Biological Evaluation	Taken by: Sara Kent – August 2, 2011

Photograph 4

Animal burrow on Property

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PHOTO LOG

Project Name: Proposed Military Construction Project – Fairchild AFB, Washington	
Task: Biological Evaluation	Taken by: Sara Kent – August 2, 2011

Photograph 5

Grasses and bare area on Property
Facing east with Armed Forces Reserve Center in background

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PHOTO LOG

Project Name: Proposed Military Construction Project – Fairchild AFB, Washington	
Task: Biological Evaluation	Taken by: Sara Kent – August 2, 2011

Photograph 6

Sand bags training activities conducted on Property

CH2MHILL

PHOTO LOG

Project Name: Proposed Military Construction Project – Fairchild AFB, Washington	
Task: Biological Evaluation	Taken by: Sara Kent – August 2, 2011

Photograph 7

Monitoring Well on Property

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO
ATTENTION OF

6 October 2011

Directorate of Public Works

MEMORANDUM FOR RECORD

SUBJECT: WA102 Fairchild AFRC, Seattle, Washington, Deployable Medical System construction, Section 7 Listed Species Determination of No Effect

1. The US Army Reserve (USAR) 88th Regional Support Command, proposes to acquire land (via permit) and construct a Deployable Medical System (DEPMEDS) and Military Equipment Parking (MEP) on approximately 17 acres of land at Fairchild Air Force Base (AFB) in Spokane, Spokane County, Washington (WA).

The Property is located on E. Eaker Avenue, Fairchild AFB adjacent to the existing Army Reserve facility. It is bordered on all sides by the AFB. Location coordinates for the facility are 47°37'54.15" N, - 117°37'56.27" W.

2. To begin Endangered Species Act - Section 7 documentation, the 88th Regional Support Command (RSC) completed a Natural Resource Survey (BHE Environmental) on August 21, 2009, on the property to identify whether any listed threatened/endangered species and sensitive habitats are present on the property. The Natural Resource Survey included a review of the US Fish and Wildlife Service (USFWS) database http://www.fws.gov/wafwo/speciesmap/SpokaneCounty080111.pdf.

RSC staff carefully reviewed the U.S. Fish and Wildlife technical assistance website for federally listed threatened and endangered species again on 30 September 2011(attached). According to the USFWS website, in Spokane County, Washington, the following are federal listed or candidate species: bull trout-Columbia River Distinct Population Segment (*Salvelinus confluentus*, T), Water howellia (*Howellia aquatilis,* T), Spalding's silene (*Silene spaldingii*, T), Ute ladies'tresses (*Spiranthes diluvialis*, T), and yellow-billed cuckoo (*Coccyzus americanus*, C).

3. The 2009 Natural Resource survey of the facility (attached) and the Biological Evaluation August 2011(attached), each determined that no listed species, suitable habitat or wetlands were present on or near the site. No species-specific protection measures are planned at this time due to the lack of known federal threatened, endangered or candidate species or potentially suitable habitat on the Property.

4. Previous phone conversations with Ms. Michelle Eames Ecological Services, USFWS Upper Columbia Fish and Wildlife Office, 11103 East Montgomery Drive, Spokane, Washington 99206, at 509-893-8010 have indicated that based on similar project findings, the USFWS does not require review of our determination nor their concurrence in writing. They do recommend a Memorandum for Record be filed in our office documenting the determination. This document fulfils that request.

With the above information, in conformance with 50 CFR 402, the 88th RSC determines that the proposed actions will have "no effect" to Federally listed species or proposed listed species under the mandates of Section 7(a)(2) of the Endangered Species Act of 1973, as amended.

5. If you have any questions about this determination, or require additional information, please contact Environmental Protection Specialist – Natural Resources, Mr. Marshal Braman 612-713-3470 or via email at marshal.braman@us.army.mil.

David L. Moore
Chief, Public Works- Environmental Division

Encl:

Cc: Ms. Michelle Eames USFWS

Appendix C

Air Emission Calculations and Record of Non-Applicability

Appendix C- Summary Table
Fairchild AFB EA
Air Quality Emission Estimates

Operational Sources[2]	Actual Criteria Pollutant Emissions (tpy)[1]							GHG Pollutant Emissions (tpy)			GHG Emissions (CO_2e) (tpy)		
	SO_2	NOx	CO	PM_{10}	$PM_{2.5}$	VOC	HAPs	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Stationary Sources													
Generators	4.84E-04	3.32	0.72	0.236	0.236	0.269	0.003	122	4.96E-03	9.93E-04	122	0.104	0.308
Mobile Sources													
On-road Vehicles	0.009	1.48	0.14	0.009	0.005	0.16	0.008	765	0.002	0.002	765	0.051	0.705
Total	**0.010**	**4.81**	**0.85**	**0.245**	**0.241**	**0.43**	**0.011**	**888**	**0.007**	**0.003**	**888**	**0.15**	**1.01**
PSD Thresholds[3]	250	250	250	250	250	250	250	N/A	N/A	N/A	N/A	N/A	N/A

Construction Sources[4]	Actual Criteria Pollutant Emissions (tpy)							GHG Pollutant Emissions (tpy)			GHG Emissions (CO_2e) (tpy)		
	SO_2	NOx	CO	PM_{10}	$PM_{2.5}$	VOC	HAPs	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Construction Worker Commute	0.002	0.228	5.57	0.006	0.003	0.208	0.011	119	0.038	0.016	119	0.790	4.91
Paving (Asphalt)	-	-	-	-	-	0.013	-	-			-	-	-
Clearing	-	-	-	0.050	0.010	-	-				-	-	-
Equipment	0.004	0.931	0.457	0.070	0.068	0.078	0.019	218	0.012	0.002	218	0.290	0.530
Material Hauling	0.001	0.093	0.009	0.001	0.000	0.010	4.92E-07	43.5	0.000	0.000	43.5	0.003	0.042
Site Grading Fugitive Dust Emissions	-	-	-	6.60	-	-	-	-	-	-	-	-	-
Construction Totals	**0.007**	**1.25**	**6.04**	**6.73**	**0.082**	**0.309**	**0.030**	**380**	**0.050**	**0.018**	**380**	**1.08**	**5.48**

Notes:

(1) Lead is not a significant pollutant generated from this type of action. Any lead emissions generated from the proposed action have been included as part of the HAP emissions.

(2) The building will be heated by electric power; therefore, emissions are considered negligible.

(3) PSD thresholds apply only to stationary sources. The Proposed Action is located in an attainment area for all criteria pollutants so PSD thresholds are the applicable significance criteria.

(4) In lieu of site-specific information, the construction emission calculations have been based on scope of similar proposed air sources at other military installations.

Appendix C-Table 1
Fairchild AFB EA
Air Quality Emission Estimates- Generators (Diesel fired)

Generator ID	Generator Rating		Heat Input[2]	Run Time[3]	Annual Power Output		Annual Heat Input
	(kW)	(hp)	(MMBtu/hr)	(hr/yr)	(kW-hr/yr)	(hp-hr/yr)	(MMBtu/yr)
Backup Generators/Emergency Equipment Including Engines under 600 hp							
1	5	6.7	0.047	288	1,440	1,931	13.5
2	10	13.4	0.094	288	2,880	3,863	27.0
3	20	26.8	0.188	288	5,760	7,725	54.1
4	30	40.2	0.282	288	8,640	11,588	81.1
5	40	53.6	0.375	288	11,520	15,451	108
6	50	67.1	0.469	288	14,400	19,313	135
7	60	80.5	0.563	288	17,280	23,176	162
8	70	93.9	0.657	288	20,160	27,039	189
9	80	107.3	0.751	288	23,040	30,901	216
10	90	120.7	0.845	288	25,920	34,764	243
11	100	134.1	0.939	288	28,800	38,627	270
Totals	**555**	**744**	**5**	**3,168**	**159,840**	**214,378**	**1,501**

Notes:
(1) 11 generators will be installed ranging from 5 to 100 kW. Generator ratings were assumed.
(2) Heat Input (MMBtu/hr) = Generator Rating (kW) x 1.341 (hp/kW) x 7000 (Btu/hp-hr) / 1,000,000 (Btu/MMBtu)
(3) Generators are expected to be used during drill weekends. The runtime was estimated by assuming 1 drill weekend per month for 2 days and 12 hrs per day. All generators were conservatively assumed to be operational for every drill.

Emission Factors for Criteria Pollutants, from AP-42, Section 3.3. Table 3.3-1 (10/96) for diesel ICSs ≤ 600 hp

Constituent	Emission Factor Diesel ICSs ≤ 600 hp	
	(lb/hp-hr)	(lb/gal)[3]
CO	0.007	0.133
NO_x	0.031	0.618
PM_{10} [1]	0.002	0.044
$PM_{2.5}$ [1]	0.002	0.044
SO_x [4]	3.58E-03	0.071
VOC	0.003	0.050

(1) All particulate matter is assumed to be less than 1.0 micrometer in diameter (i.e., the emission factor applies to Total PM, PM10, and PM2.5).
Sulfur Content of Fuel = 0.0500 % maximum
(2) The emission factors in AP-42 take into account the approximately 35% efficiency of internal combustion engines.
(3) Calculated based on 139,600 Btu/gal and 7,000 Btu/hp-hr
(4) SO_x emission factors (lb SO2/gal fuel) were calculated as follows: 1.422 x weight percent sulfur content of the fuel

Calculation of Criteria Pollutant Emissions

Constituent	Annual Actual[1] (lb/yr)	Annual Actual (tons/yr)
CO	1,432	0.716
NO_x	6,646	3.32
PM_{10}	472	0.236
$PM_{2.5}$	472	0.236
SO_x	0.968	4.84E-04
VOC	539	0.269

(1) Emission Factor (lb/hp-hr) x Annual Power Output (hp-hr/yr) = Emissions (lb/yr)

Calculation of HAP Emissions
HAP constituent emission factors for diesel ICSs ≤ 600 hp were obtained from AP-42, Section 3.3, Table 3.3-2 (10/96)

Constituent	Emission Factor (lb/MMBtu) Diesel ICSs ≤ 600 hp	Annual Actual [1] (lb/yr)
Acetaldehyde	7.67E-04	1.15
Acrolein	9.25E-05	0.139
Benzene	9.33E-04	1.40
1,3-Butadiene	3.91E-05	0.059
Formaldehyde	1.18E-03	1.77
Naphthalene	8.48E-05	0.127
Polycyclic Organic Matter	8.32E-05	0.125
Toluene	4.09E-04	0.614
Xylenes	2.85E-04	0.428
Total emissions		**5.81**

(1) Emissions (lb/yr) = Emission Factor (lb/MMBtu) x Annual Heat Input (MMBtu/yr)

Calculation of Greenhouse Gas Emissions
GHG emission factors obtained from U.S. EPA Mandatory Reporting of GHGs, Final Rule; Tables C-1 and C-2

Constituent	Emission Factor (lb/MMBtu)	Annual Actual[1] (lb/yr)	Annual Actual (tons/yr)
CO_2	163	244,686	122
CH_4	0.007	9.93	0.005
N_2O	0.001	1.99	0.001

(1) Emissions (lb/yr) = Emission Factor (lb/MMBtu) x Annual Heat Input (MMBtu/yr)

Appendix C-Table 2
Fairchild AFB EA
Air Quality Emission Estimates - Convoy Vehicle Emissions

Calculation of Criteria Pollutant Emission Rates[1]

Vehicle Category	Model Year[3]	Number of Vehicles	Annual Mileage	Fleet Vehicle Criteria Emission Factors (gm/mile)[2]						Fleet Vehicle HAP Emission Factors (g/mile)[2]					
				CO	VOC	NO_X	SO_2	PM-10	PM-2.5	Acrolein	Acetaldehyde	1,3-Butadiene	Benzene	Formaldehyde	MTBE
Convoy trips[4]															
HDDV Vehicles (USAR)	2009	29	23,200	0.29	0.34	3.13	0.020	0.020	0.010	1.24E-03	1.02E-02	2.17E-03	3.73E-03	2.78E-02	0.00E+00
HDDV Vehicles (WAARNG)	2009	169	405,600	0.29	0.34	3.13	0.020	0.020	0.010	1.24E-03	1.02E-02	2.17E-03	3.73E-03	2.78E-02	0.00E+00
On Base trips[5]				**2012 Year Emission Factors**											
HDDV Vehicles	2009	29	1,450	0.29	0.34	3.13	0.020	0.020	0.010	1.24E-03	1.02E-02	2.17E-03	3.73E-03	2.78E-02	0.00E+00
HDDV Vehicles (WAARNG)	2009	169	8,450	0.29	0.34	3.13	0.020	0.020	0.010	1.24E-03	1.02E-02	2.17E-03	3.73E-03	2.78E-02	0.00E+00

(1) Vehicle emissions were estimated for WAARNG and USAR on-base and convoy vehicle trips only. Emissions from personnel were included in the original EA and are not estimated here.
(2) Source: Air Emissions Factor Guide to Air Force Mobile Sources, AFCEE, December 2009, Appendix A. All vehicles assumed to be categorized as HDDV8b. Emission factors for calendar year 2012 were selected.
(3) Assumed an average model year of 2009.
(4) USAR takes two convoys per year and WAARNG takes six convoys per year to Spokane, Washington (~200 mi one way) for training.
(5) Vehicles are moved on base between the vehicle maintenance and parking areas. Assumed each vehicle travels 50 miles per year on base.

Vehicle Category	Model Year	Number of Vehicles	Annual Mileage	Actual Criteria Pollutant Emissions (lbs)[1]						Actual HAP Emissions (lbs)					
				CO	VOC	NO_X	SO_2	PM-10	PM-2.5	Acrolein	Acetaldehyde	1,3-Butadiene	Benzene	Formaldehyde	MTBE
Convoy Trips															
HDDV Vehicles (USAR)	2009	29	23,200	14.8	17.4	160	1.021	1.02	0.510	0.063	0.521	0.111	0.19	0.001	0.000
HDDV Vehicles (WAARNG)	2009	169	405,600	259	303	2,793	17.8	17.8	8.92	1.11	9.10	1.94	3.33	0.025	0.000
On Base Trips															
HDDV Vehicles	2009	29	290	0.185	0.217	2.00	0.013	0.013	0.006	0.001	0.007	0.001	0.002	0.018	0.000
HDDV Vehicles (WAARNG)	2009	169	1,690	1.08	1.26	11.64	0.074	0.074	0.037	0.005	0.038	0.008	0.014	0.103	0.000
TOTAL EMISSIONS (lb/yr)				**275**	**322**	**2,966**	**18.95**	**19.0**	**9.5**	**1.18**	**9.67**	**2.06**	**3.53**	**0.147**	**0.000**
TOTAL EMISSIONS (tpy)				**0.14**	**0.16**	**1.48**	**0.009**	**0.009**	**0.005**	**5.88E-04**	**0.005**	**0.001**	**0.002**	**0.000**	**0.00E+00**

(1) Actual Emissions (lb/yr) = Emission Factor (gm/mile) x Annual Mileage x 0.0022 (lb/gm)

Calculation of Greenhouse Gas Emissions

Vehicle Category	Average Model Year	Number of Vehicles	Annual Mileage	GHG Emission Factors (gm/mile)[1]			Actual GHG Emissions (lb/yr)[2]			Actual GHG Emissions (tonnes/yr)			Actual GHG Emissions (CO2e)		
				CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Government Owned Vehicles (GOVs)															
HDDV	2009	198	430,780	1,615	0.005	0.005	1,530,751	4.83	4.55	695	2.19E-03	2.06E-03	694.533	4.61E-02	6.40E-01
GOVs Total Emissions							**1,530,751**	**4.83**	**4.55**	**694.53**	**2.19E-03**	**2.06E-03**	**694.533**	**0.046**	**0.640**

(1) Source: CO_2 emission factors from Air Emissions Factor Guide to Air Force Mobile Sources, AFCEE, December 2009, Appendix A; Emission Factors for CH_4 and N_2O for On-Road Vehicles, from U.S. EPA Inventory of Greenhouse Gas Emissions and Sinks 1990 - 2009, Annex 3, Table A-101, April 2011.
(2) Actual Emissions (lb/yr) = Emission Factor (gm/mile) x Annual On-Base Mileage x 0.0022 (lb/gm)
Actual Emissions (metric tons/yr) = Actual Emissions (lb/yr) / (2.205 lb/kg) / (1000 kg/metric ton)

Appendix C - Table 3
Fairchild AFB EA
Air Quality Emission Estimates- Construction

Emissions from Construction Worker Commuting

					Pollutant Emission Factors[1] (g/VMT)						GHG Emission Factors (g/mi)			GHG Global Warming Potentials			HAP Emission Factors (mg/mile)					
Estimated Daily Commute Distance	**Number of workers**	**Daily Commute Miles[3]**	**Months of Construction**	**Total Miles per Project**	**CO**	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2**	**CH_4**	**N_2O**	**Acrolein**	**Acetalde-hyde**	**1,3-Butadiene**	**Benzene**	**Formalde-hyde**	**MTBE**
Construction Worker[2]	10	50	18	225,000	22.5	0.92	0.84	0.025	0.011	0.009	479	0.152	0.064	1	21	310	0.44	2.90	3.2725	30.8	6.56	0.0475
Total					**Pollutant Emissions (Annual tons)**									**GHG Emissions (CO2e)**			**HAP Emissions (lbs)**					
					CO	**NOx**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2**	**CH_4**	**N_2O**	**Acrolein**	**Acetalde-hyde**	**1,3-Butadiene**	**Benzene**	**Formalde-hyde**	**MTBE**
					5.57	0.228	0.208	0.006	0.003	0.002	119	0.038	0.016	119	0.79	4.91	0.218	1.44	1.62	15.3	3.25	0.02
				Total	**5.57**	**0.228**	**0.208**	**0.006**	**0.003**	**0.002**	**119**	**0.038**	**0.016**	**119**	**0.79**	**4.91**	**0.218**	**1.44**	**1.62**	**15.3**	**3.25**	**0.02**

Notes:

(1) Emission factors from Mobile 6: http://www.epa.gov/otaq/ap42.htm Appendix H: Light Duty Vehicles and Light Duty Trucks, Model Year 2012. Average of 75% vehicles(LDGT12) and 25% trucks(LDGT34). Winter Assumptions: Speed: 50 MPH/ Max Min Temp:14.3 29.6 /FUEL RVP: 14.3/ DIESEL SULFUR: 15.

(2) Construction worker total miles calculated by: multiplying daily commute hours x months of construction x 25 (days per month).; have assumed a 18-month construction period.

(3) Daily commute number includes both directions of commute

Paving (Asphalt) Emissions

Acres to be paved	10.0	
Emissions Factor[(1)]	2.62	lbs ROG (VOC) /acre
Emissions from asphalt paving	**26.2**	**lbs VOC**
	0.013	**Tons VOC**

Note:

(1) Using equation in AP-42, Section 4.5, emissions factor From URBEMIS

Clearing Emissions

Acres to be worked on	15.0	Months of Construction	18	
	Windblown Dust [1] (ft^2)	TSP Emission Factor[2] (lb/ft^2)	Emission Control Efficiency[3] (%)	Windblown Dust PM10 Emissions - Controlled (tons)
	653,400	2.52E-05	66	0.050
PM10 Emissions	**0.050**			
PM2.5 Emissions[4]	**0.010**			

Notes:

(1) No excavation or filling activities are anticipated to be conducted for the Proposed Action

(2) Windblown dust factor from "Improvement of Specific Emission Factors" prepared for South Coast AQMD by Midwest Research Institute, March 1996, assuming 100% of TSP is PM10.

(3) Control efficiency based on "Control of Open Fugitive Dust Sources", USEPA, 9/88. Proposed project measures to minimize dust will primarily include the utilization of water trucks to dampen the project area under dry-dusty conditions.

(4) PM2.5 emissions were calculated following the SCAQMD Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology, October 2006. For construction fugitive dust sources, 20.8% of the PM10 would be PM2.5.

Material Hauling

					Pollutant Emission Factors (g/VMT)[1]						GHG Emission Factors (g/mi)			GHG Global Warming Potentials			HAP Emission Factors (mg/mile)					
Material Hauling	**Tons of Material**	**# of Trips[2]**	Miles per Trip	Avg. Speed	**CO**	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2**	**CH_4**	**N_2O**	**Acrolein**	**Acetalde-hyde**	**Butadien e**	**Benzene**	**Formalde-hyde**	**MTBE**
To Site	10	450	30	50	0.29	3.13	0.34	0.02	0.01	0.02	1615	0.005	0.005	1	21	310	0.88	7.23	2.64	2.64	19.64	0
From Site	10	450	30	50	0.29	3.13	0.34	0.02	0.01	0.02	1615	0.005	0.005	1	21	310	0.88	7.23	2.64	2.64	19.64	0

	Pollutant Emissions (Annual tons)									GHG Emissions (CO2e)			HAP Emissions (lbs)					
	CO	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2**	**CH_4**	**N_2O**	**Acrolein**	**Acetalde-hyde**	**1,3-Butadien e**	**Benzene**	**Formalde-hyde**	**MTBE**
To Site	0.004	0.05	0.005	0.000	0.000	2.97E-04	21.8	0.000	0.000	21.8	0.00	0.02	0.03	0.22	0.08	0.08	0.58	0.000
From Site	0.004	0.05	0.005	0.000	0.000	2.97E-04	21.8	0.000	0.000	21.8	0.00	0.02	0.03	0.22	0.08	0.08	0.58	0.000
Total	0.009	0.093	0.010	0.001	0.000	0.001	43.5	0.000	0.000	43.5	0.00	0.04	0.052	0.430	0.157	0.157	1.17	0.000

Notes:

(1) Assumes HDDV8b vehicles. Model year 2009 used in calendar year 2012.

(2) Conservatively assumes 1 trip a day each way for 18 months

Site Grading Fugitive Dust Emissions

	PM EF Tons/ Acre-month[1]	**Acres worked[2]**	**Months**	**PM Emissions (tons)**
Average Conditions	0.22	5.0	6	6.60

Notes:

(1) URBEMIS2007 for Windows Users' Guide Appendix A – Construction Emissions, Page A–6, average case emissions factor, 0.42 ton/acre-month

Algorithm: Acres of Area Graded * Months of Grading * EF = Emissions from Grading

(2) Assumes 5 acres worked at a time (per month).

Construction Summary Table

	CO	**NOx**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**HAPs**	**CO_2**	**CH_4**	**N_2O**	**CO_2**	**CH_4**	**N_2O**
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(CO2e)	(CO2e)	(CO2e)
Construction Worker Commute	5.57	0.228	0.208	0.006	0.003	0.002	0.011	119	0.038	0.016	119	0.79	4.91
Paving (Asphalt)	-	-	0.013	-	-	-	-	-	-	-	-	-	-
Clearing	-	-	-	0.050	0.010	-	-	-	-	-	-	-	-
Equipment	0.457	0.931	0.078	0.070	0.068	0.004	0.019	218	0.012	0.002	218	0.29	0.53
Material Hauling	0.009	0.093	0.010	0.001	0.000	0.001	0.001	43.5	0.000	0.000	43.5	0.00	0.04
Site Grading Fugitive Dust Emissions	-	-	-	6.6	-	-	-	-	-	-	-	-	-
Construction Totals	**6.04**	**1.25**	**0.309**	**6.73**	**0.082**	**0.007**	**0.031**	**380**	**0.050**	**0.018**	**380**	**1.08**	**5.48**

Note:

Equipment emissions obtained from Table 4 and Table 5.

Appendix C-Table 4
Fairchild AFB EA
Air Quality Emission Estimates- Diesel Off-road Construction Vehicles

Calculation of Criteria Pollutant Emission Rates

Emissions Estimate Based on Engine Rating and Operating Time (All Diesel-fired Equipment)

Equipment Data										*Emission Parameters*		*Emissions Factors* [4]						*Annual Actual Emissions* [5]					
Vehicle/Equipment Type	Equipment Category	Engine Type	Number of Units	Engine Rating (Per Unit) (hp)	Model Year	Model Year Site (S)/ Default (D)	Operating Time (Per unit) (hr/yr)	Total Operating Time (hr/yr)	Source for Operating Time Site (S)/ Default (D) [1]	Load Factor [2] (Percent of Max. Power)	SCC[3]	VOC Emission Factor (g/hp-hr)	CO Emission Factor (g/hp-hr)	NOx Emission Factor (g/hp-hr)	PM-10 Emission Factor (g/hp-hr)	PM-2.5 Emission Factor (g/hp-hr)	SO_2 Emission Factor (g/hp-hr)	VOC Emissions (lb/yr)	CO Emissions (lb/yr)	NOx Emissions (lb/yr)	PM-10 Emissions (lb/yr)	PM-2.5 Emissions (lb/yr)	SO_2 Emissions (lb/yr)
Backhoe	Construction	Reciprocating Diesel	1	95	2009	D	450	450	D	21%	2270002066	1.10	5.41	5.78	0.86	0.84	0.02	21.8	107	114	17.1	16.6	0.396
Concrete Truck	Construction	Reciprocating	1	250	2009	D	450	450	D	59%	2270002051	0.22	1.28	3.49	0.18	0.18	0.02	32.3	188	511	27.0	26.2	2.2
Skid Steer Loader	Construction	Reciprocating	1	46	2009	D	450	450	D	21%	2270002072	1.48	6.94	6.17	1.07	1.04	0.02	14.2	66.6	59.1	10.3	10.0	0.202
Paver/Roller	Construction	Reciprocating	1	100	2009	D	450	450	D	59%	2270002003	0.28	1.66	3.48	0.29	0.28	0.02	16.1	97.4	203	16.8	16.3	0.949
Clearing Equipment (Roller)	Construction	Reciprocating	1	100	2009	D	450	450	D	59%	2270002015	0.31	2.03	3.79	0.33	0.32	0.02	17.9	119	222	19.5	18.9	0.972
Delivery Trucks	Construction	Reciprocating	1	250	2009	D	450	450	D	59%	2270002051	0.22	1.28	3.49	0.18	0.18	0.02	32.3	188	511	27.0	26.2	2.22
Excavators	Construction	Reciprocating	1	94	2009	D	450	450	D	59%	2270002030	0.38	2.71	4.38	0.41	0.40	0.02	20.7	149	241	22.6	22.0	0.958
TOTAL EMISSIONS (Pounds)																		**155**	**915**	**1,862**	**140**	**136**	**7.91**
TOTAL EMISSIONS (TONs)																		**0.078**	**0.457**	**0.931**	**0.070**	**0.068**	**0.004**

Notes:

(1) Operating times and engine ratings are based on similar construction projects.

(2) Load factor is the fraction of available power at which the engine normally operates. Source: U.S. Environmental Protection Agency, Office of Transportation and Air Quality, Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling, Report No. NR-005d, July 2010.

(3) SCC obtained EPA Nonroad Model

(4) Emission factors are obtained from U.S. Environmental Protection Agency, NonRoad Model (2008). Run July 25, 2011 for the year 2012 for the entire nation. Assumptions: Fuel RVP: 8.0, O wt.%: 0.0, Gas Sulfur %: 0.0339, Diesel Sulfur %: 0.05, Marine Diesel Sulfur %: 0.2637, CNG/LPG Sulfur % 0.003, Min Temp 60, Max Temp 84, Ave Temp 75, Stage II Control %: 0.0

(5) Annual Actual Emissions (lb/yr) = Engine Rating (hp) x Loading Factor (%) x Operating Time per Unit (hr/yr) x Number of Units x Emission Factor (g/hp-hr) x Conversion Factor (0.002205 lb/g)

HAP Emissions From Diesel -fired Equipment

HAP constituent emission factors obtained from U.S. Environmental Protection Agency, SPECIATE Version 4.0 , Speciation for Medium Duty Trucks (Profile # 4674), Speciation based on tests preformed in 1996
Speciation for construction equipment was not available so the medium duty truck speciation has been used here to estimate HAP emissions. http://www.epa.gov/ttn/chief/software/speciate/index.html

Constituent CAS	Constituent Name	Factor	Actual[1]
		(Weight% VOC)	(lb/yr)
106-99-0	1,3-butadiene	0.12	**0.184**
540-84-1	2,2,4-trimethylpentane	0.47	**0.734**
75-07-0	Acetaldehyde	15.94	**24.7**
107-02-8	Acrolein (2-propenal)	1.30	**2.01**
71-43-2	Benzene	1.05	**1.62**
100-41-4	Ethylbenzene	0.18	**0.278**
50-00-0	Formaldehyde	8.51	**13.2**
108-38-3; 106-42-3	M & p-xylene	0.89	**1.38**
78-93-3	Methyl ethyl ketone (2-butanone)	2.86	**4.44**
91-20-3	Naphthalene	0.24	**0.365**
95-47-6	O-xylene	0.32	**0.491**
123-38-6	Propionaldehyde	5.34	**8.29**
108-88-3	Toluene	1.52	**2.36**
132-64-9	Dibenzofuran , also noted as "DBZFUR"	0.011	**0.017**
98-86-2	Acetophenone	1.95	**3.02**
Total:			**37.5**

Notes:

(1) Emission Factor (Weight% VOC) x VOC Emissions from Diesel Off-Road Equipment / 100 = Actual HAP Emission (lb/yr)

Appendix C-Table 5
Fairchild AFB EA

Air Quality Emission Estimates - Construction

Equipment Name	Capacity	Units	Fuel Type	Max Annual Run Time (hr/yr)	Calculated Annual Fuel Usage	Units	Heat Input (MMBtu/yr)	CO2 Emission Factor Name	CH4 and N2O Emission Factor Name	CO2 Emission Factor	CO2 Emission Factor Units	CO2 Tier	CH4 Emission Factor
1 Ton Trucks	250	hp	Diesel	450	787,500,000	Btu	788	Distillate Fuel Oil (#1, 2, & 4)	Diesel Oil Engines < 600 hp (447 kW) (INGAA)	73.96	kg/MMBtu	Estimated	4.0
Concrete Trucks	250	hp	Diesel	450	787,500,000	Btu	788	Distillate Fuel Oil (#1, 2, & 4)	Diesel Oil Engines < 600 hp (447 kW) (INGAA)	73.96	kg/MMBtu	Estimated	4.0
Backhoes	95	hp	Diesel	450	299,250,000	Btu	299	Distillate Fuel Oil (#1, 2, & 4)	Diesel Oil Engines < 600 hp (447 kW) (INGAA)	73.96	kg/MMBtu	Estimated	4.0
Front End Loaders	46	hp	Diesel	450	144,900,000	Btu	145	Distillate Fuel Oil (#1, 2, & 4)	Diesel Oil Engines < 600 hp (447 kW) (INGAA)	73.96	kg/MMBtu	Estimated	4.0
Paving Machine	100	hp	Diesel	450	315,000,000	Btu	315	Distillate Fuel Oil (#1, 2, & 4)	Diesel Oil Engines < 600 hp (447 kW) (INGAA)	73.96	kg/MMBtu	Estimated	4.0
Excavator	94	hp	Diesel	450	296,100,000	Btu	296	Distillate Fuel Oil (#1, 2, & 4)	Diesel Oil Engines < 600 hp (447 kW) (INGAA)	73.96	kg/MMBtu	Estimated	4.0
Clearing Equipment	100	hp	Diesel	450	315,000,000	Btu	315	Distillate Fuel Oil (#1, 2, & 4)	Diesel Oil Engines < 600 hp (447 kW) (INGAA)	73.96	kg/MMBtu	Estimated	4.0

Equations:

Activity Data x Emission Factor = Emission Rate

CO2

kg/MMBtu x MMBtu/yr x 1000 g/kg x 1 tonne/1000000 g = tonne/yr

CH4 and N2O

g/MMBtu x MMBtu/yr x 1 tonne/1000000 g = tonne/yr

Appendix C-Table 5
Fairchild AFB EA

Air Quality Emission Estimates - Construction

Equipment Name	CH4 Emission Factor Units	CH4 Tier	N2O Emission Factor	N2O Emission Factor Units	N2O Tier	CO2 - Tier Estimated (tonne/yr)	CH4 - Tier Estimated (tonne/yr)	N2O - Tier Estimated (tonne/yr)	CO2 - (CO2e) (tonne/yr)	CH4 - (CO2e) (tonne/yr)	N2O - (CO2e) (tonne/yr)
1 Ton Trucks	g/MMBtu	Estimated	0.6	g/MMBtu	Estimated	58	0.003	0.0005	58	0	0.14
Concrete Trucks	g/MMBtu	Estimated	0.6	g/MMBtu	Estimated	58	0.003	0.0005	58	0	0.14
Backhoes	g/MMBtu	Estimated	0.6	g/MMBtu	Estimated	22	0.001	0.0002	22	0	0.05
Front End Loaders	g/MMBtu	Estimated	0.6	g/MMBtu	Estimated	11	0.001	0.0001	11	0	0.03
Paving Machine	g/MMBtu	Estimated	0.6	g/MMBtu	Estimated	23	0.001	0.0002	23	0	0.06
Excavator	g/MMBtu	Estimated	0.6	g/MMBtu	Estimated	22	0.001	0.0002	22	0	0.05
Clearing Equipment	g/MMBtu	Estimated	0.6	g/MMBtu	Estimated	23	0.001	0.0002	23	0	0.06
					Total	**218**	**0.012**	**0.002**	**218**	**0.295**	**0.527**

Record of Non-Applicability (RONA)
Concerning the General Conformity Rule (40 CFR Part 51)

Name of Project: US ARMY RESERVE CENTER

Location: SPOKANE COUNTY, WASHINGTON

The Proposed Action includes the construction and operation of a Deployable Medical System (DEPMEDS) training area and military equipment parking (MEP) adjacent to the newly constructed Fairchild Armed Forces Reserve Center at Fairchild Air Force Base in Spokane County, Washington. The DEPMEDS training area would support the US Army Reserve and the MEP area would support both the US Army Reserve and the Washington Army National Guard equipment.

Army guidance dictates that a Record of Non-Applicability (RONA) be prepared for Federal Actions where proposed emissions are clearly *de minimis* in order to comply with the General Conformity Rule (40 CFR 51, Subpart W) and the National Environmental Policy Act (NEPA 42 USC 4231 et seq.).

Conformity under the Clean Air Act, Section 176, has been evaluated for the proposed action in accordance with 40 CFR Part 51. The requirements of this rule are not applicable because the proposed action is located in an attainment area for all criteria pollutants.

DAVID L. MOORE
Chief, Environmental Division
88th Regional Support Command
United States Army Reserve

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